Bureau for Humanitarian Response

Office of US Foreign Disaster Assistance

Results Review and Resource Request

FY 2003

June 2001

Please Note:

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Released on or after Oct. 1, 2003

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ACRONYMS

AAAS	American Association for the Advancement of Science
ACF	Action Contre la Faim
ACROSS	Association of Christian Resource Organizations Serving Sudan
ADRA	Adventist Development & Relief Agency
ADPC	Asia Disaster preparedness Center
AFR/SD	Africa Bureau/Sustainable Development
AFR/WA	Africa Bureau/West Africa
AHA	Auxiliary Hospital Attendants
AICF/F	Action International Contre la Faim/France
AIS	Association of Seismic Engineering
AOC	Air Operations Center
ARC	American Refugee Committee
AUDMP	Asian Urban Disaster Mitigation Program
BPHC	Basic Public Health Center
BRCS	Burundi Red Cross Society
CAD	Children Aid Direct
CAHWs	Community Animal Health Workers
CARE	Cooperative American Relief Everywhere
CARITAS	International Conference of Catholic Churches
CBHW	Community-Based Health Workers
CDC	Centers for Disease Control (US Dept. of Health and Human Services)
CDMP	Caribbean Disaster Mitigation Project
CIP	Climate Information Project
CISP	Comitato Interna'l per lo Sviluppo dei P
CMA	Christian Mission Aid
CO_2	Carbon Dioxide
COOPI	Cooperazione Internazionale
CPHA	Temporary Housing Committees (Honduras)
CRED	Center for Research on the Epidemiology of Disasters
CRS	Catholic Relief Service
DART	Disaster Assistance Response Team
DASP	Disaster Assistance Support Program
DMTP	Disaster Management Training Program
DOW	Doctors of the World
DRD	Disaster Response Division
DRM	Disaster Response and Mitigation
DROC	Democratic Republic of Congo
ECHO	European Community Humanitarian Office
EMDAT	Emergency Events Disaster Database
FAA	Foreign Assistance Act
FEMA	Federal Emergency Management Agency
FEWS	Famine Early Warning System
FFP-ER	Food for Peace – Emergency Response
FHI	Food for the Hungry International

FHIA	Honduras Agricultural Research Foundation
G/EGAD/AFS	Global Bureau/Center for Economic Growth and Agricultural Development/Office of Agriculture and Food Security
G/ENV/ENR	Global Bureau/Center for Environment/Office of Environment and Natural Resources
G/FANTA	Global Bureau/Food, Agriculture & Nutrition Technical Assistance
G/HCD	Global Bureau/Human Capacity Development
GOS	Government of Sudan
GOT	Government of Turkey
GRM	Government of Mozambique
GVC	Gruppo Di Volantorio Civile
IARCs	International Agricultural Research Centers
IAS	International Aid Sweden
ICDDR/B	International Center for Diarrhoeal Disease Research/Bangladesh
ICIPE	International Center for Insect Physiology and Ecology
ICMC	International Catholic Migration Commission
ICRC	International Committee of the Red Cross
IDA	International Disaster Account
IDNDR	International Decade for Natural Disaster Reduction
IDPs	Internally Displaced People
IFRC	International Federation of Red Cross & Red Crescent
IMC	International Medical Corps
INGC	Instituto National De Gestao De Calamidados
IOM	International Office for Migration
IR	Intermediate Result
IRC	International Rescue Committee
IRG	International Resources Group
IRI	International Research Institute
JTF	Joint Task Force
KFOR	UN Kosovo Force
KLA	Kosovar Liberation Army
LAC	Latin America & the Caribbean
LWR	Lutheran World Relief
MCI	Mercy Corp International
MEDAIR	Medical Environmental Development With Air Assistance
MEDIC	Medical Emergency Development International Committee
MERLIN	Medical Emergency Relief International
MFR	Medical First Responder
MRE	Meals Ready to Eat
MSF	Medicins Sans Frontiers
MST	Ministry of Science & Technology
NASAR	National Agency for Search & Rescue
NATO	North Atlantic Treaty Organization
NGOs	Non-Governmental Organizations
NOA	New Obligating Authority
NOAA	National Oceanic and Atmospheric Administration

NPA	Norwegian Peoples Aid
OAS	Organization of American States
OE	Operating Expenses
OFDA	Office of US Foreign Disaster Assistance
OLS	Operation Lifeline Sudan
OTI	Office of Transition Initiatives
PACIS	Pan American Climate Information System
PAHO	Pan American Health Organization
PARC-VAC	Pan-African Rinderpest Campaign - Vaccination
PASA	Participating Agency Service Agreement
PEER	Program for the Enhancement of Emergency Response
PHCCs	Primary Health Care Centers
PHCUs	Primary Health Care Units
PMP	Prevention, Mitigation, Preparedness
PPMP	Prevention, Mitigation, Preparedness and Planning
PVOs	Private and Voluntary Organizations
RANET	New Radio and Internet technology for Communication of Weather and Climate Information to Rural Communities for Sustainable Development in Africa
REDSO/ESA	Regional Economic Development Support Organization/Eastern and Southern Africa
RMS	Resource Management Services
RSSA	Resources Support Services Agreement
SAR	Search and Rescue
SCF	Save the Children Fund
SO	Strategic Objective
SPAWAR	Space and Warfare Command Center
SPHERE	e.g., the SPHERE Project/Humanitarian Charter and Minimum Standards in Disaster Response
TAF	The Asia Foundation
TBA	Traditional Birth Attendants
UN/WFP	United Nations/World Food Program
UNDAC	United Nations Disaster Assistance Coordination
UNDP	United Nations Development Program
UNFAO	United Nations Food and Agriculture Organization
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations International Children's Education Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNOPS	United nations Office for Project Services
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USDHs	United States Direct Hires
USG	United States Government
USGS	United States Geological Survey
VDAP	Volcano Disaster Assistance Program
VSF	Veterinaries Sans Frontieres

WHO	World Health Organization
WV	World Vision

PART I. Overview and Factors Affecting Program Performance

Overview

In FY 2000, OFDA responded to 66 declared disasters in 63 countries, including 46 natural disasters, 16 complex emergencies and 4 human-caused emergencies. Natural disasters affected approximately 154 million people, their livestock and livelihoods, and killed more than 45,000 people. More than 50 million people remain displaced by complex emergencies.

Drought and floods were the most prominent natural disasters, accounting for 75 percent of casualties caused by natural disasters and 87 percent of the total number of people affected by them. Flooding in Africa, Asia, Eastern Europe and Latin America was responsible for the deaths of more than 34,000 people, and rendered 1.7 million people homeless. Overall, 54 million people were affected by flooding. Housing structures, electric and water systems, roadways, bridges and other transportation infrastructure, livestock, cropland, shrimp and fish farms were damaged or destroyed. The greatest loss of human life in a single flood (30,000 people killed) occurred in Venezuela, where villagers were buried under mudslides or were swept away by the December 16, 1999 floods in Carabobo, Falcon, Miranda, Nueva Esparta, Tachira, Yaracuy, Zulia, and Vargas states.

In India, cyclones that hit the districts of Blasore, Bhadrak, Cuttack, Ganjam, Jagatsinghpur, Jajpur, and Kendrapara in Orissa, Andhra Pradesh and West Bengal states on October 22, 1999, claimed more than 9,465 human lives, injured 2,260 people, made 7 million people homeless and affected an additional 15 million people. The cyclones damaged homes, schools, roadways, electric, water and telecommunication systems and destroyed livestock and crops. More than 1.2 million hectares of cropland was damaged or destroyed.

Drought affected close to 121 million people in FY 2000. In addition to critical food shortages, it caused acute potable water shortages, significant crop failures and livestock losses. India, for example, lost 54 million cattle, and approximately 90 million of its people became food insecure. The areas most affected include the states of Rajasthan, Gujarat, Andhra Pradesh, Madhya Paradesh and Orissa.

By the end of FY 2000, in the Horn of Africa, close to 28 million people were affected by drought, and continue to require emergency food and water assistance. Pastoralists and agro-pastoralists lost more than half of their livestock due to lack of adequate water and pasture for three consecutive years.

By the close of FY 2000, the cumulative effect of years of ongoing, complex emergencies in 16 countries had claimed more than 4.8 million human lives. Approximately 50 million people remain displaced from their homes and communities. Complex emergencies in Angola, Burundi, Rwanda, Sierra Leone, Somalia, and Sudan have persisted for more than 10 years and have caused enormous human suffering. Ethnic

conflict and civil war have claimed hundreds of thousands of human lives, caused significant damage to governmental, economic and social infrastructures and have robbed people of their livelihoods. Consequently, displaced people are extremely vulnerable to malnutrition, disease and exploitation by warring factions.

Disease epidemics in the Central African Republic, Comoros, the Democratic Republic of the Congo, Afghanistan and El Salvador killed more than 500 people in FY 2000. Malaria, cholera, meningitis, measles and polio continue to pose danger to people living in flood-affected areas, in internally displaced persons (IDPs) camps and in poor, crowded and underserved communities.

Human-caused emergencies, such as fires and explosions in an ammunition warehouse in DROC, in a Ukraine coalmine, and in a Romania gold mine claimed the lives of 184 people, injured 250 people and posed danger to thousands more. The accidental release of 100,000 cubic meters of cyanide solution from a Romania gold mine into the Szamos and Tisza Rivers continues to threaten marine life and endanger people living downstream in Romania and Hungary.

Summary of Progress

In accordance with its mandate of saving lives and alleviating human suffering, OFDA responded to all declared disasters with the provision of emergency commodities and services. As shown in Table 1, OFDA provided assistance in many sectors including health and nutrition, water and sanitation, emergency shelter, and emergency agriculture to alleviate the suffering and protect the livelihoods of the most vulnerable groups, and to avert further suffering, morbidity and mortality.

Table 1: FY 2000 Obligations by Sector

Sector	$ Amount
Search & Rescue	7,448,784
Emergency Health & Nutrition	48,468,168
Water & Sanitation	18,283,391
Shelter &Survival Kits	27,812,961
Food Security & Emergency Agriculture	35,375,765
Emergency Infrastructure Rehabilitation	2,350,000
Resttlement & Reintegration of IDPs	2,183,687
Disaster Response & Mitigation Capacity Building	48,766,253
General Relief, Admin. & Logistics	41,099,851
Total	231,788,860

Complex emergencies continue to require the largest share of OFDA resources. In FY 2000, OFDA obligated $128.2 million for complex emergency responses, or 55.3 percent of its total obligations, and $50.1 million, or 21.6 percent, for natural and human-caused disasters.

OFDA's emergency assistance was channeled through US Private and Voluntary Organizations (PVOs) and International Non-Governmental Organizations (NGOs), International Organizations (IOs), United Nations agencies, USAID Missions, other US Government (USG) agencies, US universities and institutional contractors.

In FY 2000, 23 NGOs and 31 PVOs received OFDA grants to implement emergency assistance programs worldwide. OFDA entered into cooperative agreements with the Fairfax County Search and Rescue unit, the Miami-Dade Urban Search and Rescue unit, and the National Association for Search and Rescue for SAR operations. It also utilized participating agency service agreements (PASAs) and resource sharing and service agreements (RSSAs) with the Departments of Defense, Agriculture, and several other US Government entities. OFDA provided emergency assistance resources to international organizations including the International Committee of the Red Cross (ICRC), the International Federation of the Red Cross (IFRC), the Organization of American States (OAS) and the World Bank, in addition to collaborating and working with USAID Missions.

Table 2 details the total amount of $231.8 million obligated for emergency response, mitigation and preparedness in FY 2000. Thirty-four percent was obligated through US PVOs, and 10.5 percent was obligated through NGOs. Approximately 17.3, 13.2, 8.2 and 6.5 percent was obligated through UN agencies, institutional contractors, other USG entities and USAID Missions, respectively.

Table 2: FY 2000 Obligation by Type of Implementing Partner

Implementing Partner Type	$ Amount Obligated	% Distribution
Search & Rescue	3,539,557	1.5%
NGOs	24,340,329	10.5%
PVOs	78,664,236	33.9%
Institutional Contractors	30,585,779	13.2%
International Organizations	5,094,160	2.2%
Foundations	200,000	0.1%
UN-Agencies	40,016,388	17.3%
US Universities	1,526,532	0.7%
USAID/Operating Units/Bureaus	14,989,647	6.5%
USG-Other	19,023,803	8.2%
OFDA Other (PSCs USDH, OE, etc.)	13,808,429	6.0%
Total	231,788,860	100.0%

In FY 2000, OFDA's emergency assistance reached approximately 64 million people worldwide. This assistance was directed primarily to severely and moderately malnourished children, nursing and pregnant women, the elderly, and disabled people. In addition to the provision of emergency relief commodities and services, OFDA provided assistance for emergency preparedness and disaster mitigation capacity building at the community, national and regional levels. The need for international emergency

assistance when disaster strikes is intimately related to the very limited capacity many disaster-prone countries have to respond to large-scale emergency events on their own.

In the immediate aftermath of most disasters, local people take on the burden of dealing with the situation. In many cases, a majority of human lives and economic assets are lost within the first 24-72 hours after a disaster has occurred, before professional services and support have arrived. To address this problem, over the past two decades OFDA has supported disaster preparedness and mitigation training at a regional, national and community levels to enhance disaster response capabilities of targeted at-risk countries.

In the 1980s, following a series of major disasters in Latin America, OFDA's Latin America and Caribbean (LAC) regional team designed and developed a successful disaster management-training program. The program's objective was to enhance regional, national and local capacity to plan for, prepare, respond to and mitigate disaster events, as well as to strengthen host country and local capacities to reduce vulnerability to future disasters. The program was very successful and was expanded to the Caribbean in 1992, to South Pacific in 1994 and to Asia in 1998, and is scheduled for implementation in Africa in 2001.

In addition to the provision of relief commodities and services, OFDA supports rehabilitative and disaster prevention activities that reduce vulnerability to recurring emergency events. An example is OFDA support for activities aimed at reducing the impact of floods, through:

- The construction of check dams using locally available materials,
- Cleaning and rehabilitating drainage canals; and
- Reseeding of degraded watershed areas to improve soil retention.

In Vietnam, where the impact of floods has worsened in recent years due to higher population density in watershed areas and decreased drainage capacity of the land, OFDA has supported flood plain delineation activities. This is a mapping effort, which helps people determine suitable locations for homes, where to put emergency shelters as a contingency for future flooding, and where to send people during evacuations. In addition, OFDA experts demonstrated how flood resistant structures are designed and constructed. Several flood-resistant houses and flood-resistant water wells have been constructed through these programs.

In drought prone areas such as Eritrea, Ethiopia, Kenya, Somalia, India, and Pakistan, OFDA has supported borehole and water well rehabilitation and maintenance activities in order to enhance the availability of potable water. OFDA has also supported "rainwater harvesting" programs involving the construction of cisterns and ponds for storage of rainwater.

To improve food security for drought-affected populations, OFDA supports the development and distribution of disease and drought-resistant, short-maturity seed varieties. Farmers receive training and technical assistance through extension services to

enhance farm productivity. To assure greater access to these services, extension workers and veterinary technicians are recruited and trained from among targeted vulnerable populations.

Overall, in FY 2000, OFDA made significant progress toward its strategic objective. A majority of OFDA's implementing partners have also successfully met the needs of the targeted vulnerable groups.

Factors Influencing Program Performance

While emergency relief needs of the majority of vulnerable populations served by OFDA have been successfully met, in a few instances, emergency commodities and services provided were inadequate (e.g., did not met international standards) and/or vulnerable groups could not be accessed by humanitarian workers. For example, in Ethiopia, where the government's Disaster Preparedness and Prevention Commission (DPPC) sets ration standards, vulnerable populations were given food rations to meet only 60 percent of their daily caloric intake requirements. In addition, in some areas where severely malnourished children under 5 years of age needed therapeutic feeding, the government prevented the establishment of therapeutic feeding centers.

In many complex emergency countries such as Afghanistan, Russia (Chechnya), Angola, Burundi, the Democratic Republic of Congo, Indonesia, Sierra Leone, Somalia, Sudan, and Uganda, the unpredictability of the onset of conflict and the constant movement of IDPs prevented vulnerable people from accessing humanitarian assistance. In some instances, humanitarian workers were evacuated. For example, the Government of Sudan's bombing of rebel positions in Bahr el Ghazal led ICRC and PVOs/NGOs working in the area to curtail activities. In Angola, instability impeded and sometimes prevented humanitarian assistance activities. Humanitarian organizations were targets of harassment, looting and crime by rebels and other elements.

In Sierra Leone, despite the Lome Peace Accord, numerous ceasefire violations continued, including fighting between rebel factions, killings and abductions of civilians, and attacks on humanitarian workers, vehicles and supplies. Rebel-controlled eastern and northern areas of the country remained largely inaccessible to humanitarian agencies, jeopardizing the lives and well being of thousands of vulnerable people. In the Democratic Republic of Congo, uncertain security prevented international humanitarian efforts in reaching widely dispersed and diverse groups of IDPs.

Requested Changes to OFDA's Results Framework

In order to enhance and sustain the effectiveness of OFDA-supported programs, OFDA has reformulated its emergency response team mechanisms and has fine-tuned its strategic approach to disaster response and mitigation. In May 2000, OFDA was officially reorganized from four Divisions into three: (1) Program Support (PS), (2) Operations (OS), and (3) Disaster Response and Mitigation (DRM), which merged the former Disaster Response Division (DRD), and Prevention, Mitigation, Preparedness and

Planning Division(PMPP). This reorganization provides better coordination and management of relief activities and facilitates greater self-reliance in preparedness and mitigation for at-risk populations during and following disasters.

As a reflection of the Office's operational shift toward merging relief and mitigation activities, OFDA proposes the incorporation of Strategic Objective 2 under Strategic Objective 1. OFDA will retain Strategic Objective 1 as currently articulated. This reformulation will appear as follows:

Strategic Objective 1(SO1), *"Critical needs of targeted vulnerable groups met in emergency situations"*, directly serves OFDA's mandate of saving lives and reducing the suffering of people affected by human-caused, natural and complex emergencies. In the revised framework, achievement of SO1 will be buttressed by the following four intermediate results.

- Intermediate Result 1 (IR1), *"Improved targeting of emergency assistance to the most vulnerable groups"*.
- Intermediate Result 2 (IR2), *"Emergency assistance, meeting recognized standards, received by disaster victims in a timely manner"*.
- Intermediate Result 3 (IR3*), "Capacities for livelihoods protected and/or restored"*.
- Intermediate Result 4 (IR4*), "Increased adoption of mitigation measures in countries at greatest risk of natural and human-caused disasters"*.

IR1 reflects OFDA's strategic approach of directing emergency assistance to the most vulnerable disaster victims first. IR2 underscores OFDA's efforts to reduce suffering and the loss of human life by ensuring that appropriate emergency assistance reaches disaster victims as soon as possible after a disaster is declared. IR3 relates to OFDA's mandate of reducing human suffering by providing emergency assistance in a manner that protects disaster victims' livelihoods, and strengthens local capacities and traditional coping mechanisms in order to reduce or eliminate dependence on relief assistance and vulnerability to recurring disasters. IR4 focuses on the need to strengthen capacities of at-risk countries to respond, manage, and mitigate disasters. These activities reduce vulnerability and risk to recurring human-caused and natural disasters.

PART II. Results Review by Strategic Objective

Strategic Objective No. 1

Strategic Objective No. 1: Critical needs of targeted vulnerable groups met in emergency situations.

OFDA's performance on SO1 is on-track. Performance of Strategic Objective No.1 is measured using the following performance indicator:

> **Performance Indicator No. 1:** Percent of disaster response grants where an acceptable proportion of the targeted vulnerable population's critical needs have been met.

Performance indicator No. 1 is evaluated on the basis of whether OFDA's implementing partners have achieved their grant objectives. By meeting the emergency needs of groups they target in their grants, implementing partners reduce mortality, morbidity and human suffering. For all disaster mitigation and responses, OFDA provides assistance to meet the critical needs of 100 percent of these targeted vulnerable populations. Thus, the expected performance target for the indicator is 100 percent.

FY 2000 Accomplishments

As indicated in Part I, *OFDA has achieved its objective and met its performance indicator target* though a numerical value indicating how much progress has been made is not available. As the case studies in Annex I illustrate, the majority of OFDA's implementing partners have met their grant objectives. To meet the critical emergency needs of targeted vulnerable groups, OFDA responded by providing emergency commodities and services directly and through implementing partners in the following sectors.

Emergency health care and nutrition:
The immediate health needs of targeted vulnerable populations were met by (1) supporting nutritional status assessment and surveillance, (2) implementing therapeutic and supplementary feeding programs for severely and moderately malnourished children under five years of age, and (3) supporting supplementary feeding programs for nursing and pregnant women. In addition to OFDA's support for a general immunization campaign against measles, meningitis, and polio, children undergoing therapeutic and supplementary feeding are diagnosed, treated and/or immunized against many common childhood diseases. Children are also given vitamin supplements to accelerate their recovery.

In Afghanistan, Burundi, the Democratic Republic of Congo, Eritrea, Ethiopia, Sudan, Sierra Leone, and Somalia, where government-run basic health services had completely collapsed or were inadequate, OFDA supported the repair and restocking of health clinics and hospitals with essential drugs, equipment, and medical supplies to enhance the

quality, availability, and access to emergency health care services for IDPs and host communities. To reach isolated and mobile vulnerable groups, OFDA funded mobile emergency health clinics. For example, in addition to emergency feeding programs in Eritrea, OFDA supported mobile primary health care services, including an expanded program of immunization (EPI), curative care, and prenatal care to IDP and host communities.

To reduce reliance on expatriate humanitarian health care workers and nutritionists, local Ministry of Health and NGOs' local health care staff were trained in (1) basic hygiene practices, (2) nutrition status assessment, (3) surveillance and growth monitoring, and, (4) diagnosis and treatment of the most prevalent diseases including malaria, dengue fever, cholera and diarrhea. In order to expand access to emergency health care services in IDP camps and among host populations, implementing partners trained traditional birth attendants and community health workers.

Training of health clinic and hospital staff was complemented through the training of beneficiaries. Such training includes basic hygiene and sanitation; preparation and feeding of food to severely and moderately malnourished children under 5 years of age; preparation and use of oral re-hydration therapy salts; and women's health care.

Water & Sanitation:
In most disaster-affected areas, availability of potable water and sanitation facilities is critical for reducing morbidity, mortality and human suffering. Experience shows that the probability of disease outbreaks greatly increases in areas that lack a basic supply of these resources, and especially where masses of people are congregated. To reduce the probability of outbreak and spread of disease, especially the water-borne variety, OFDA supported the provision of potable water and appropriate sanitation facilities.

The provision of potable water includes (1) supplying water bladders to store and treat water, (2) water tankering, (3) distribution of water containers and, (4) provision of water treatment chlorine tablets. It also includes the rehabilitation of existing boreholes and water wells, the construction of new boreholes and wells, and building-up community water management capacity. Water point operation and maintenance has brought other benefits to affected communities in the form of income generation. For example, in Eritrea and Ethiopia, women and men who oversee the water points collect fees from users.

In India, cash-for-work projects rejuvenated purchasing power for drought-affected populations and enhanced the availability of potable water for female and child-headed households. This involved using cash-for-work to rehabilitate and develop a water retention infrastructure, including water harvesting systems and water storage facilities.

In Eritrea, Ethiopia, Djibouti, Somalia and Kenya, where drought affected more than 20 million people, OFDA supported the provision of potable water through water tankering, rehabilitation of traditional boreholes, wells and ponds, and construction of additional boreholes and wells. In addition, rainwater harvesting and collection systems, such as

cisterns and ponds, were constructed to meet future water needs of the drought-affected population.

In drought affected areas in Ethiopia, implementing partners trained selected individuals from targeted communities in masonry and other skills so that they could participate in the construction of boreholes, water wells, cisterns and ponds. In addition, training was provided in water management and conservation, including the operation and maintenance of water points, cisterns and ponds. These activities also generated income opportunities for the participants.

In the Philippines (volcano), Venezuela (floods), and Vietnam (floods), OFDA supplied water testing kits and water purification units to meet potable water needs of targeted vulnerable populations. In addition to the distribution of water purification tablets, equipment and water containers, OFDA funded the construction of several flood-resistant water wells. In Somalia, water pump operators were trained, and equipment was provided to maintain water points. In addition there is an ongoing review and evaluation of water purification and storage units.

In addition to providing safe drinking water, OFDA supported the rehabilitation and construction of sanitation facilities. In Eritrea, where IDPs prefer traditional open-air defecation even when latrines are provided, community members and mobilizers were trained in improved sanitation, latrine construction and use. In Rwanda, OFDA supported the rehabilitation and construction of appropriate sanitation facilities to improve the sanitation conditions of targeted primary schools. In IDP camps, latrines were constructed and beneficiaries were trained on the proper use and maintenance of latrines and water points.

Emergency Shelter

A need for shelter is common among populations affected by complex emergencies and natural disasters. To meet the emergency shelter needs of targeted vulnerable groups, OFDA supported the provision of shelter material such as plastic sheeting, and tents, blankets and household kits. OFDA has an ongoing, internal review and evaluation to improve the quality and construction of emergency shelters.

In Eritrea, a majority of war-affected people fled their homes in a hurry, without taking clothing or provision for shelter. Much displacement occurred during the rainy season, when conditions in the valleys are extremely harsh. In order to reduce the suffering of these displaced persons, OFDA provided shelter material, in addition to sleeping mats, cooking utensils, kerosene stoves, kerosene, sanitary napkins and blankets.

To protect IDPs from the winter cold in Afghanistan, roads were repaired to facilitate the transportation of fuel, and shelters were winterized. In Serbia-Montenegro, OFDA supported an emergency shelter program that benefited more than 290,000 people. The program included the distribution of 20,000 emergency shelter kits containing wood framing, plastic sheeting, doors, insulation material, stoves, tools, and related supplies to families living in damaged housing.

In Vietnam, which was affected by severe flooding, in addition to the provision of temporary shelter material, more than 4,000 concrete floors were constructed for flood resistant housing. OFDA also supported the provision of technical assistance to help the Government of Vietnam increase its capacity to mitigate and reduce the impact of flood disasters by delineating where homes and shelters could be constructed. Technical assistance was also provided to the Red River Flood Forecasting and Early Warning System, and for the construction of dams.

Emergency Agriculture and Food Security
In Eritrea, Ethiopia and other countries where large populations were at the brink of starvation, OFDA supported the purchase, transportation and distribution of high-energy blended foods, high-protein biscuits, and other essential ready-to-eat meals. To enhance food security, reduce dependence on food aid, and protect livelihoods, OFDA also supported emergency agricultural and livestock programs. These programs include the following activities:

- provision of seeds and tools;
- technical assistance to farmers through extension services;
- small loans to farmers;
- rehabilitation of agricultural infrastructure such as irrigation systems and access roads;
- local multiplication, storage and marketing and distribution of seeds; and,
- technical assistance for livestock de-stocking, restocking, animal vaccination, and animal husbandry.

The program targeted vulnerable groups in Afghanistan, Angola, Burundi, DROC, Republic of Congo, Eritrea, Ethiopia, Georgia, Kenya, India, Indonesia, Madagascar, Mozambique, Pakistan, Rwanda, Serbia-Montenegro (Kosovo), Sierra Leone, Sudan, and Uganda.

Other Life Saving Interventions
OFDA dispatched search and rescue teams to assist in the recovery of flood and earthquake victims in Mozambique (floods), Madagascar (floods), and Turkey (earthquake).

Prospects for Future Progress On SO1

Better Prospects for Future Progress on SO1
No end is in sight for most current complex emergencies, and it is anticipated that others will erupt. Between that and a projected increase in frequency and severity of natural and human-caused emergencies, OFDA's challenges are enormous. OFDA is meeting these challenges by:

- Using innovative approaches to strengthen its capabilities to respond to disasters effectively and efficiently;

- Strengthening the disaster response, mitigation and preparedness capacities of targeted at-risk countries worldwide; and,
- Incorporating risk reduction measures in disaster response programs.

Strengthening Internal Capacity
OFDA continues to hone the skills of its Washington and field staff by providing training and keeping current on new methodologies, systems and tools. At the same time, it is collaborating with USAID Missions, and draws on the resources and expertise of other USG entities through Participating Agency Services Agreements (PASAs), and Resource Sharing and Service Agreements (RSSAs). OFDA collaborates and works with numerous regional and multinational organizations, including the World Bank, the Caribbean Development Bank (CDB) and the Organization of American States (OAS).

In 1999, in responses to disasters including the devastating earthquakes in Turkey, destruction from Hurricane Mitch in Central America, and the shelter crisis in Kosovo, OFDA played an increased operational role in the field. The loss of OFDA Washington staff to overseas assignments placed significant demands on staff who remained in Washington. Based on this experience, OFDA established a Washington-based Response Management Team (RMT) structure and schedule to better manage emergency responses [1]. In FY 2000, RMTs were successfully activated in response to floods in Southern Africa, the complex emergency and drought in Ethiopia and Eritrea, and floods in Venezuela. The RMT coordinates decisions with OFDA partners in Washington and responds to inquiries from other U.S. government agencies, other donors, NGOs and PVOs, the US Congress, and the White House. Response Management Teams support Disaster Assistance Response Teams (DARTs) in the field. DARTS deploy rapidly to disaster situations on behalf of the U.S. Government to conduct needs assessments, gather information, report on the evolving situation, provide humanitarian coordination, and process grants to implementing partners.

The Response Alternatives for Technical Services (RATS) program was established in FY 2000 to enhance OFDA's "surge capacity" by ensuring that additional professional expertise is available if needed for immediate field deployment or emergency Washington support. In addition, OFDA has enhanced its staffing in its regional offices in San Jose, Costa Rica, Nairobi, Kenya, and, Manila, Philippines for improved monitoring of potential crises, and appropriate, regionally-managed disaster responses.

OFDA's Technical Assistance Group (TAG), created in the mid-1990s, continues to provide innovative approaches to emergency response programming in the face of evolving challenges to humanitarian assistance. The TAG is a team of specialists who provide scientific and technical expertise to long-term planning and disaster preparedness

[1] When a disaster strikes, USAID/OFDA may deploy a USAID/DART to the field. If it does, it may also mobilize an RMT in Washington to ensure good communication, appropriate analysis, quick response to field requests, and prompt information dissemination. An RMT is a team composed in advance that is responsible for planning, logistics, communications and administrative duties during a disaster response. The structure of an RMT in Washington parallels that of a DART on the ground.

activities. Representative sectors include agriculture and food security, emergency and public health, water and sanitation, geo-science, climate, shelter, and urban planning. With such a broad range of specializations, the TAG is able to provide OFDA with a high technical level of understanding of emergencies and disasters, as well as information needed for comprehensive disaster preparedness and response[2].

In FY 1999, the TAG produced the Mitigation Practitioner's Handbook (MPH) as a reference guide for the planning and development of disaster interventions with a specific focus on prevention and preparedness issues. The MPH supplements OFDA's Field Operations Guide for Disaster Assessment and Response (FOG) in four areas: seeds and tools, livestock, water, and cash and food for work. It focuses on how and why OFDA provides assistance in those sectors, and how to incorporate elements of disaster preparedness and prevention[3] in a response. The MPH is currently being rewritten in light of current research and experience, and is expected to be released in 2001.

In Asia, OFDA is developing a strategy to deal more effectively with an increasing number of hydro-meteorological disasters (floods, storms, and droughts) there. During FY 2000, OFDA deployed a hydro-meteorological advisor to Bangladesh to serve as a regional resource in preparedness activities such as the OFDA-funded long-range flood-forecasting project for Bangladesh. A hydro-meteorological expert, based in Washington, D.C., who is responsible for dealing with such issues worldwide, assists the advisor.

To complement its capabilities, OFDA continues to expand its access to the expertise and staff of other USG entities. For example, following the 1985 eruption of Nevado del Ruiz Volcano in Columbia, OFDA and USGS started the Volcano Disaster Assistance Program (VDAP)[4]. The program's primary goal is to reduce eruption-caused fatalities and economic losses in developing countries.

VDAP provides OFDA with a mobile crisis-response volcano surveillance capability to quickly assess emergencies, install monitoring equipment, and advise local and national

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[2] TAG members are available to all of OFDA personnel, including Field Offices and Missions. Team members serve on DARTs in the field, on assessment teams, and on Response Management Teams in Washington. Through inter-agency agreements and coordination with various USG agencies and bureaus, the TAG offers OFDA access to valuable information and expertise. The team adds a significant value to OFDA activities by serving as a core staff for evaluating global trends in disaster occurrences, and developing methods to incorporate lessons learned into OFDA's prevention, preparedness and response activities.

[3] Each chapter provides guidelines on assessing options, types of interventions, and two illustrative case studies. In its analyses of specific interventions, the MPH takes into consideration the decision-making dynamics of local populations, their desire for self-sufficiency, and their productive capacities. The handbook emphasizes sensitivity to local culture, and maintaining as neutral a position as possible during emergencies. It is currently being updated to include two new areas, health and shelter/settlements.

[4] VDAP consists of (1) a small group of scientists based at the USGS's Cascades Volcano Observatory in Vancouver, Washington; (2) a large group of contributing scientists from other USGS offices; and, (3) a cache of portable volcano-monitoring equipment ready for rapid deployment around the world.

authorities when a volcano becomes restless[5]. USGS scientists developed a mobile volcano-monitoring system, which includes instrumentation to monitor seismicity, ground deformation, volcanic gases, and debris flows. Most recently, VDAP scientists upgraded volcano-monitoring networks in Mexico, Nicaragua, Ecuador, and Papua New Guinea.

Since 1993, OFDA has cooperated with the National Oceanographic and Atmospheric Agency (NOAA) to promote regional production of seasonal climate forecast information, which can be applied toward improved disaster risk management, prevention and preparedness. These efforts were instrumental in helping countries cope with the effects of the 1997-1998 El Nino Southern Oscillation (ENSO) event.

Reducing Risk

OFDA increasingly incorporates preventive, risk reduction, and livelihood protection measures in disaster response activities. Careful deliberation of disaster response options is a critical element of OFDA's funding strategy. Grant proposals are reviewed for environmental considerations in order to avoid practices that degrade the environment and may lead to future disasters. Some examples of such efforts are described below.

In response to the May 1998 urban flooding in Kinshasa, Democratic Republic of Congo that affected an estimated 100,000 people, OFDA approved a project implemented through Catholic Relief Services (CRS) designed to reduce vulnerability to future flooding. The project included the building of check dams from locally available materials, the cleaning of drainage canals, and the reseeding of degraded watershed areas to improve soil retention. When torrential rains struck Kinshasa again in February 1999, no homes were damaged in the project area, and no residents were injured or displaced, thus avoiding a repeat of the $7.7 million estimated economic loss suffered by the same residents in FY 1998.

A similar urban project was funded through CRS following the 1999 flooding in Bamako, Mali. In July and August 1999, unusually heavy rains fell in Mali for several weeks, cutting vital rail lines to Dakar, Senegal, and disrupting road traffic to the regional capital of Mopti. In Bamako, flooding caused at least eight deaths and damaged more than 100 houses. Approximately 4,000 residents were forced from their homes by floodwaters.

The floods in Mali are only one example of how rapid urbanization can lead to more natural emergencies and increased vulnerability. In Bamako, rapid population growth caused significant deterioration of urban services and infrastructure. Nearly 60 percent of the population lived in unauthorized, poorly constructed housing, and received low levels

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[5] In 1991 VDAP was credited for its quick response to Mount Pinatubo's eruptions in the Philippines. Scientists established rapid monitoring networks, completed a hazard assessment, provided accurate eruption forecasts, and established effective communication with Philippine Government officials and U.S. military leaders. Since 1991 VDAP has responded to volcano crises in Cerro Negro, Nicaragua; Colima and Popocatepetl, Mexico; Mayon, Philippines; Merapi, Indonesia; Montserrat, West Indies; Nyiragongo and Nyamuragira, Zaire; Sabancaya, Peru; Pichincha and Tungurahua, Ecuador; Turrialba, Costa Rica, among others.

of urban services, including sewage disposal, refuse collection, water and electricity. In addition, the disposal of solid waste into waterways and drains contributed to widespread flooding in Bamako. These problems were exacerbated by extreme deforestation in and around the city, as trees were cut down for firewood. The population of Bamako is particularly vulnerable to floods when heavy rainfalls combine with waterway overflows, deforestation, inadequate waste disposal, and the lack of effective land use management practices. For example, of Banconi's total population of approximately 200,000 people, more than 55 percent live in areas at high-risk to flood damage.

During the 1999 floods, 416 families in the Banconi District were affected by flash floods from nearby cliffs. To mitigate future flood damages in vulnerable areas, OFDA provided Action Against Hunger (AAH) with a one-year grant for a pilot floods mitigation project in the Banconi District of Commune 1, one of Bamako's fastest growing, poorest, most densely populated, and poorly served section of the district**.**

This activity was designed to decrease the uncontrolled spreading of floods by constructing catchment basins, reinforcing fragile creek banks with stones packed in iron wire, and planting trees near waterways. At the time of this work, four transit dumpsites were being constructed. AAH took advantage of this serendipitous timing by working with community members, municipal sanitation services and private garbage collection companies to clean refuse from waterways and establish a sustainable system for garbage collection, disposal and recycling. In addition, AAH used a public education campaign to increase awareness among school-age children, the general public, and public officials. The campaign stressed important connections between flood emergencies, water-borne disease, and hygiene practices, and included periodic community clean-up days. Finally, the project promoted livelihoods along water and drainage-ways by linking garbage collection, recycling and composting with urban agriculture (forestry, livestock and fisheries).

In Latin America, OFDA funded the implementation of the Central American Mitigation Initiative (CAMI) announced by former President Clinton in March 1999 after he surveyed the damages from Hurricane Mitch. CAMI's mission is to reduce the impact of natural disasters by increasing national and local capacities in Central America in the areas of forecasting, monitoring, and prevention of natural disasters.

OFDA's first activity was to fund the International Resources Group (IRG) to conduct a post-Hurricane Mitch assessment. The assessment was conducted to determine gaps in disaster mitigation and response capacities in Central America, to identify root causes of vulnerabilities, to prioritize risks from natural emergencies, and to develop measurable objectives required to address those gaps and weaknesses. Based largely on the findings in IRG's assessment, OFDA began designing and implementing action plans in cooperation with other relevant partners[6].

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[6] In FY 2000, OFDA provided more than $3.9 million for mitigation activities in El Salvador, Guatemala, Honduras, and Nicaragua. This funding was provided to USAID Missions in the four countries and to the U.S. Geological Survey (USGS). USAID/San Salvador received $500,000 to strengthen Salvadoran national emergency systems and implement environmental management

In Asia, the impact of floods in Vietnam during FY 2000 was exacerbated because increased population density in watershed areas decreased the land's drainage capacity and placed more people at-risk. In addition to providing relief assistance to flood-affected vulnerable groups, OFDA is supporting a flood plain delineation effort that will map flood plains to determine (1) where people should avoid building homes, (2) the best locations for emergency shelters, and (3) evacuation routes for future flooding events.

In Honduras, USAID's Land Use Productivity Enhancement (LUPE) activity designed to improve hillside agriculture practices, successfully reduced soil erosion and mudslides. Under LUPE, 38,000 families growing crops on a hillside adopted environmentally sustainable cultivation practices that reduced soil erosion on steep slopes, from 37 tons per acre to less than half a ton, saving an estimated five million tons of topsoil annually. During Hurricane Mitch, LUPE farms withstood the ravages of the storm, while soil erosion and landslides destroyed farms that had not adopted these practices. Following Hurricane Mitch, both OFDA and USAID played a major role in reconstruction assistance by, "building back better" using the LUPE approach.

Funded by USAID's Africa Bureau, and with additional funds from OFDA in Africa, the Famine Early Warning System (FEWS) supports exchange of trans-boundary water information and climate issues. FEWS provides monitoring and reporting on hydro-meteorological developments likely to affect food supplies within Africa. OFDA provides support to FEWS for specific areas, namely cyclical droughts and humanitarian disasters.

In cooperation with the Organization of American States, OFDA supports a multi-year program in the Caribbean to reduce vulnerability to natural emergencies in the region. The 1993-1999 Caribbean Disaster Mitigation Project (CDMP) promoted the adoption of disaster mitigation and preparedness techniques, technologies and practices, by the public and private sectors in the Caribbean region, thereby lessening the loss of life, reducing potential infrastructure damage, and shortening the recovery period from natural disasters.

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interventions; USAID/Guatemala received $500,000 to strengthen national emergency systems; USAID/Tegucigalpa received $1.5 million to strengthen national risk management systems; and USAID/Managua received $100,000 to hire a Disaster Mitigation Advisor. USGS received $660,000 to implement a national flood alert system and automate stream gauges in El Salvador, Guatemala, and Nicaragua. In Honduras, USGS will use the funding to support a geographic information and remote sensing (GIS) specialist who will coordinate data gathering, train specialists at the Honduran civil defense agency (COPECO) and its partner NGO, and will strengthen links between COPECO, its partner NGO, and the 40 towns involved in USGS's municipal GIS project. OFDA also provided $840,000 to the USGS Volcano Disaster Assistance Program (VDAP) for a three-year period, to address volcano emergencies mitigation in Central America.

In FY 2001 and 2002, approximately $6 million will be awarded to NGOs for community disaster preparedness in Central America, and the National Oceanic and Atmospheric Administration (NOAA) will receive approximately $900,000 for strengthening early warning systems in the region.

In an effort to increase disaster preparedness awareness in development planning, OFDA works with various international lending institutions, including the World Bank. An OFDA disaster mitigation expert is, for example, assisting the World Bank to incorporate environmental considerations in the Bank's lending decisions. OFDA is also working with the World Bank for the integration of disaster mitigation activities with the International Agricultural Research Center.

During FY 2000, OFDA provided the Caribbean Development Bank (CDB) with a startup grant to establish an in-house advisory position. The advisor reviews development loans, and ensures that project designs are sensitive to natural and environmental emergencies. After three years, the advisor will become a permanent, self-supporting position within the CDB.

Lake Sarez in the central Asian nation of Tajikistan located in one of the most seismically active regions of the world poses great risk to downstream communities. The lake, formed in 1911 when an earthquake caused a massive landslide that blocked the Amu Darya River, is now 60 kilometers long and up to 500 meters deep, containing more than 50 billion cubic meters of water. Another major earthquake in this earthquake-prone region could destroy the lake's unstable dam[7]. If the dam breaks, it could send a wave of up to 20 to 30 meters high racing through Tajikistan, as well as Turkmenistan, Uzbekistan, and Afghanistan, all of which lie downstream from the dam, affecting an estimated five million people living in the region.

During FY 1999, OFDA partially supported a UN-sponsored assessment mission of technical experts to the Lake Sarez dam. Again, in FY 2000, OFDA contributed $250,000 toward the Lake Sarez Risk Mitigation Project implemented by Focus Humanitarian Assistance. In partnership with the World Bank, this multinational project will design and install systems to monitor lake levels, leakage rates, landslide movements, and other critical indicators that can forewarn of a potential disaster. The project strengthens emergency shelter areas by training communities in the use and maintenance of an early warning system. The project also explored the possibility of long term engineering solutions. OFDA also supported the training of community members in disaster mitigation, including, relocating and strengthening endangered infrastructure, water control, and slope stabilization.

Over the past three years alone, countries such as Uganda, Kenya, Tanzania, Burundi, and the Democratic Republic of Congo have seen both extreme drought and devastating floods on top of protracted complex emergencies. Crop failures and livestock losses have dramatically reduced food security. In addition, loss of traditional food crops such cassava due to infestation and disease, will further diminish the availability of food[8] to drought-affected populations.

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[7] There have been at least three-dozen significant earthquakes in the area since 1990.

[8] Cassava, a starchy carbohydrate-based tropical root crop with leaves rich in protein, is traditionally a major source of dietary energy for more than 500 million people throughout much of sub-Saharan Africa. The cassava plant offers high-energy carbohydrates and a moderate amount of protein,

In October 1998, in response to concerns over the Cassava Mosaic Virus Disease (CMD), a potentially debilitating crop disease, OFDA began funding the Emergency Program to Combat CMD Pandemic in East Africa. The results have been remarkably successful, particularly in initiating efforts to revive cassava production in Uganda, Kenya, and Tanzania. In an effort to build on these successes, OFDA funded the Cassava Mosaic Disease Pandemic Mitigation Project in June 2000. By growing CMD-resistant cassava strains now available in Uganda, Kenya, and Tanzania, the project will alleviate the effects of food shortages from crop losses due to drought or disease. The project is also working to address a deteriorating food security situation in bordering countries resulting from CMD's westward expansion.

In Asia, OFDA supported the Asian Disaster Preparedness Center (ADPC) located in Bangkok, Thailand, to implement disaster reduction and preparedness activities. ADPC programs include the Program for Understanding Extreme Climate Events (PUECE), which has improved understanding of the impacts of extreme climate events such as El Nino and La Nina on selected Asian countries. Currently, PUECE operates in Indonesia, the Philippines, and Vietnam, and may expand to include Bangladesh and Thailand. Other OFDA-supported ADPC activities include the Asian Urban Disaster Mitigation Program (AUDMP), the Program for Enhancement of Emergency Response (PEER), and the Damage Assessment and Needs Analysis Program (DANA) described below. OFDA also participates in discussions on hydro-meteorological issues affecting China, India, and Pakistan, and works closely with the Department of State on these issues.

The AUDMP, launched in 1995, was designed to make cities safer from disasters. Its goal was (1) to reduce the disaster vulnerability of urban populations, infrastructure, critical facilities, and shelter in targeted, secondary cities throughout Asia; and (2) promote replication and adaptation of successful mitigation and prevention measures throughout the region. Toward this end, the program conducted national demonstration projects, information dissemination and networking activities, policy seminars, and professional training. AUDMP operates in Bangladesh, Cambodia, China, India, Indonesia, Lao PDR, Nepal, the Philippines, Sri Lanka, and Vietnam.

PEER, a collaborative initiative between ADPC, OFDA, and the Miami-Dade Fire Rescue Department, which commenced in October 1998 is expected to enhance emergency response capabilities of targeted at-risk countries once it is fully implemented. Its objective is to develop and strengthen first responder, hospital emergency preparedness, and search and rescue training capabilities in Asia, at the regional, sub-regional, and national levels[9]. It is designed to impart skills and enhance the expertise of

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including eight essential amino acids. Cassava is one of the most drought tolerant and weather resistant crops available, and it is capable of high yield under marginal soil conditions.

9 There is a high demand for participation in OFDA's Program for Enhanced Emergency Response (PEER). PEER is designed to address significant topics in a region that is prone to natural disasters, and is comprised of three critical focus areas: Medical First Responder (MFR), Collapsed Structure Search and Rescue (CSSR) and Hospital Disaster Preparedness (HosDip). The program's objective is

local responders in order to provide effective and coordinated, on-the-scene, management of rescue and medical response needs following a disaster. The four target countries for PEER are India, Indonesia, Nepal and the Philippines.

The impact of OFDA's highly successful Global Training Program extends well beyond what was initially envisioned. In the LAC region alone, more than 8,000 disaster or disaster-related professionals have successfully completed at least one OFDA course. Universities in Brazil, Colombia, and Peru have incorporated these courses into their curriculum requirements. Fire services throughout the LAC region have accepted and are using OFDA's Medical First Responder (MFR) course as their basic medical training. Each country now has a cadre of instructors capable of teaching the course. Coordination between emergency authorities, at the national level, including fire services in training, and planning and response operations, have improved considerably in Venezuela, Costa Rica, El Salvador, and Peru.

OFDA's Introduction to Disaster Management (IDM) course developed by, and for the South Pacific region, is now being widely and successfully used in ten different countries throughout the South Pacific. The purpose of the course is to inform local officials and community members of national disaster plans, and their roles in disaster reduction and response. The course has been a catalyst to develop village-level disaster management committees, plans and activities in Fuji and several other islands.

In addition to directly benefiting the targeted at-risk countries, the Global Training Program lays the foundation for OFDA's effective disaster response. It enhances OFDA's visibility and network of contacts, allowing OFDA to play a key role in pre-disaster planning. These same networks can then be utilized during a disaster response to help OFDA provide the most rapid and appropriate humanitarian assistance available.

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to integrate both non-medical and medical communities by working together in disaster response—a union that is critical in the aftermath of a large-scale disaster.

PART III. Resource Request

OFDA requests $247.5 million for FY 2003 to (1) respond to and mitigate natural and human-caused disasters and complex emergencies, (2) carry out its fiduciary responsibilities, and (3) to achieve its strategic objective. The magnitude and unpredictable nature of most disaster events requires that OFDA respond rapidly while remaining flexible and creative in its approaches to response and mitigation. This budget request reflects these factors.

As shown in Table 3.1, in FY 2000, OFDA obligated $231.8 million. This amount includes $229.4 in International Disaster Account funds, $2.1 million salaries and wages of United States Direct Hires and $298,000 for travel and other expenses. The FY 2000 amount is $8.7 million higher than the amount projected in last year's OFDA R4 report.

Table 3.1: OFDA's Actual and Projected Resource request ($ in Millions)

Expenditure Category	Actual		Projected		
	FY 1999	**FY 2000**	**FY 2001***	**FY 2002**	**FY 2003**
1. Operations Center	4.0	0.3	2.0	2.5	2.5
2. DART Teams	8.0	4.3	3.5	4.0	4.0
3. Disaster Response & Mitigation Capacity Building	45.0	34.9	40.0	45.0	46.0
4. Disaster Mitigation Joint-Funding with USAID Entities	24.0	14.0	11.0	12.0	13.0
5. Natural and Human-Caused Disaster Response	43.0	50.1	50.0	55.0	57.0
6. Complex Emergency Response	171.0	128.2	122.5	125.0	125.0
Grand Total	**295.0**	**231.8**	**229.0**	**243.5**	**247.5**

* In the Bureau Budget Submission for 2001, BHR requested IDA funding of $165 million

For FY 2001, OFDA expects to obligate $ 229 million. As of the end of March 31, $114.4 million of that total has been obligated. For FY 2002 and FY 2003, OFDA is projecting obligations of $243.5 million and $247.5 million respectively. Breakdown of funding sources is shown in Table 3.2.

In FY 2000, OFDA's staff includes 24 USDHs (three positions unfilled), 34 Washington-based PSCs (excluding institutional contractors), 22 field-based PSCs, 17 RSSAs/PASAs and 2 AAAS Fellows. In addition, OFDA maintains a staff of 9 in Kosovo, and has a worldwide FSN staff of 24. As indicated earlier, when responding to crisis events, OFDA uses its flexibility to deploy staff to the field and hire additional PSCs to fill resulting gaps.

Table 3.2: OFDA's Operating Budget by Source ($ in Million)

	Actual					Projected		
Funding Source	**FY 1996**	**FY 1997**	**FY1998**	**FY 1999**	**FY 2000**	**FY 2001**	**FY2002**	**FY2003**
IDA-New Obligating Authority (NOA)*	$155.9	$165.0	$160.0	$160.0	$152.7	$165.0	$200.0	$240.6
Supplemental**	$0.0	$0.0	$0.0	$188.0	$0	$8.8	$36.8	$0
Section 492(b) Authority	$0.0	$0.0	$0.0	$0.0	$3.0	$0.0	$0.0	$0
Transfers from other USAID Offices	$14.5	$0.0	$0.0	$0.0	$5.2	$1.0	$0.0	$0.0
Carry-over***	$19.2	$36.7	$31.0	$8.6	$97.1	$30.0	$4.0	$4.0
Total Program Resources	**$189.6**	**$201.7**	**$191.0**	**$356.6**	**$258.1**	**$204.8**	**$240.8**	**$244.6**
Operating Expense (OE)								
USDHs Sal. & Wages				$2.0	$2.1	$2.2	$2.3	$2.4
Other Operating Exp.				$0.3	$0.3	$0.3	$0.4	$0.5
Total OE				**$2.3**	**$2.4**	**$2.5**	**$2.7**	**$2.9**
Total Operating Budget	**$189.6**	**$201.7**	**$191.0**	**$358.9**	**$260.5**	**$207.3**	**$243.5**	**$247.5**
Obligations								
IDA	$156.6	$174.6	$186.0	$292.6	$229.4	$192.0	$240.8	$244.6
Other	na	na	na	$2.3	$2.4	$11.3	$2.7	$2.9
Total	**na**	**na**	**na**	**$294.9**	**$231.8**	**$203.3**	**$243.5**	**$247.5**

* The total NOA-IDA account, which is shared between OFDA and the Office of Transition Initiatives (OTI) is: FY 97 = $190 million, FY 98 = $190 million, FY 99 = $200 million.

** This represents a mid fiscal year appropriation by Congress [for FY 2001 $8.8 million is the re-apportionment of the un-obligated balance from the FY 1993 Sub-Saharan Disaster fund].

*** Includes recoveries and the de-obligations of closed and expired grants and other transactions.

Table 3.3 gives a breakdown of OFDA's actual and projected staff counts. In FY 2000, OFDA operated with a staff of 132 excluding on-site institutional contractor personnel but including Foreign Service Nationals (FSNs). The equivalent estimate for FY 2001 is 138.

Table 3.3 BHR/OFDA WORKFORCE REQUIREMENT, FY 1999-2003

	Actual		Requested		
STAFF LEVELS*	**FY 1999**	**FY 2000**	**FY 2001**	**FY 2002**	**FY 2003**
USDHs	24	24	24	26	26
RSSA/PASAs**	26	17	17	17	17
AAAS	2	2	2	2	2
PSCs					
Washington Based***	27	34	43	43	45
Field Based	22	22	26	26	26
Kosovo Long Term DART Staff	25	9	1	0	0
FSNs	12	24	25	25	25
Total Staff	**138**	**132**	**138**	**139**	**141**

* Excludes personnel provided by institutional contractors

** FY 1999 reflects employees of Darlington (a private sector contractor) contracted by SPAWAR

*** Excludes PSCs hired in behalf of FFP-ER (FY 2000 = 5; 2001=5)

The increase in staff level from FY 2000 to FY 2001 reflects reorganization of the office for effective disaster response, which resulted in the creation of planning and field support teams as well as increased activities in Afghanistan and Africa. For FY 2002 and FY 2003, OFDA is asking for two additional direct hires for a total of 26, one to serve in the OFDA regional office in Africa, and one in the regional office in Asia. No increases are requested for AAAS fellows or field-based PSCs. The number of field-based PSCs fluctuates based on needs to respond to emergencies.

Many hidden cost elements need to be considered when reviewing OFDA's resource request.

First, for each major declared emergency, OFDA uses the "Operations Center" for as long as necessary. The Operations Center may be used by a Response Management Team (RMT), or by a group of OFDA staff that is focused on a particular response. Regular OFDA personnel are selected for service in these cases, putting large, additional workload requirements on those not selected. For large and protracted emergencies, the Operations Center is frequently operated 24 hours a day, seven days a week, most typically by an RMT. As shown in Table 3.4, in FY 2000 the Operations Center was in full use for 28 days and was staffed with 30 people. That is equivalent to approximately 907 person-days at a cost of $250,000.

Table 3.4: Operations Center Activities – FY 2000

Event	# of Days	# of Persons	# of Person-days*
Venezuela - Floods	7	8	98.0
South Africa - Floods	21	22	808.5
Total	28	30	906.5

* Assumes each person devotes on average 14 hours of his/her day on Operations Center duties. The person-days is estimated as (# of persons * #of days * 14 hours workday)/8 hours.

While the Operations Center is an important base of OFDA response management, in FY 1999 and FY 2000, the Operations Center was operated for longer periods to satisfy externally driven demands. These pressures place a significant workload burden on already over-committed staff, and need to be recognized and addressed.

Second, for each major declared emergency, OFDA deployed a Disaster Assistance Response Team (DART), and sometimes more than one, to conduct assessments and to coordinate disaster responses in the field. As is true of Operations Center responsibilities, most people selected for service on DART teams are OFDA personnel who must leave their regular duties to colleagues. During FY 2000, there were seven major declared disasters, and seven DART teams were fielded. The smallest DART team was two persons (Albania), and the largest was 22 people (Kosovo).

As shown in Table 3.5, in FY 2000, the 7 major disasters required close to 1,946 person-days of DART support. OFDA's DART related expenses totaled approximately $ 4.3

million including funds obligated for the participation of the Fairfax County ($2.6 million) and Miami-Dade ($1.2 million) Search and Rescue teams.

Table 3.5: Person-Days of DART Teams			
Disaster Event	**# of DART Teams**	**# of People Involved***	**# of Days in Field**
Serbia – Montenegro-Complex Emergency	1	22	1,077.5
Ethiopia-Complex Emergency	1	8	215.0
Eritrea- Complex Emergency	1	9	220.0
Albania – Complex Emergency	1	2	20.0
Turkey - Earthquake II	1	8	48.0
Venezuela - Floods	1	6	38.0
South Africa - Floods	1	16	327.5
Total	7	66	1,946.0

* Excludes Miami-Dade and Fairfax SAR personnel

National and international climatologists have forecast that more severe climate events entailing drought, forest fires and famine in some parts of the world and cyclones, heavy rains and flooding in others will occur more frequently and severely. Geologic and seismic researchers around the world, including scientists at the USGS, predict more devastating earthquakes and severe volcanic eruptions in many places. It is not unreasonable to expect that OFDA may have to deploy more DART teams and activate the Operations Center more frequently in the future.

Third, although external emergency assistance does save lives and reduce human suffering, the most effective responses to drought, famine and earthquakes begin locally, in communities. In FY 2000, OFDA funded many activities designed to reduce risk and strengthen regional, national and local capacity for disaster response, mitigation, preparedness, and prevention. As shown in Table 3.6, in FY 2000, OFDA obligated more than $34.9 million for internal and external capacity-strengthening activities. Through grants to implementing partners, OFDA supported community-level activities that help to reduce food insecurity, improve emergency health and nutrition, prevent and control disease epidemics, improve management of climate variability to protect vulnerable populations, and enhance vulnerability mapping and targeting. It also provided capacity strengthening assistance to implementing partners.

Table 3.6: Capacity Building

Implementing Partners Capacity Building	$ 4,215,861
Targeted Community-Level Capacity Building	1,680,011
Host Country Capacity Building	10,115,854
OFDA Internal Capacity Enhancement	18,916,895
Total Capacity Building Related Obligations	**34,928,621**

In addition, OFDA funded many activities intended to strengthen the disaster response, mitigation and preparedness capacities of targeted at-risk countries and regions. Regional offices were strengthened and assigned more responsibility to (1) coordinate and manage disaster response activities and, (2) to oversee programs designed to strengthen regional, national and local disaster response, mitigation and preparedness capacities.

To prepare for and respond to disasters most effectively and efficiently, OFDA continues to hone skills of its staff. In addition to staff training, OFDA has enhanced its capacity by accessing expertise from other USG entities through RSSA/PASA agreements, and by obtaining the services of private providers using cooperative agreements, contracts, purchase orders, and grants. As shown in Table 3.7, OFDA obligated $17.9 million to gain access to staff expertise and other resources of USG entities.

Table 3.7: USG Entities Service Providers

Vendor	FY 2000 Obligations
US Department of the Air Force	6,055,000
US Department of Defense	1,000,000
US Army Corp of Engineers	26,000
Leghorn Army Depot	187,375
Agency for Toxic Substance & Disease Registry	400,000
FEMA	60,000
US Department of Agriculture	1,100,000
US Geological Survey	2,997,936
US Department of State	85,351
US Department of Transportation	20,207
US Department of Health & Human Services	278,423
US Department of Commerce	30,000
National Foreign Affairs Training Center	7,500
General Service Administration	26,937
SPAWAR	5,671,723
Total	**17,946,452**

Fourth, prevention and preparedness interventions ease the necessary transition from response to development activities. OFDA intends to expand its coordination and collaboration with USAID Missions in disaster-prone countries. It is working with USAID Regional Bureaus, the Global Bureau, Missions and other BHR entities to ensure that appropriate disaster mitigation activities are implemented in crisis-prone countries to reduce vulnerability to recuoring disasters.

As shown in Table 3.8, in FY 2000, OFDA obligated close to $14 million for joint funding of mitigation and other activities with other USAID offices. OFDA expects to continue close collaboration with other USAID entities to reduce vulnerability of at-risk countries to future disasters. Incorporation of disaster mitigation activities into USAID's sustainable development programs will not only reduce relief costs but will also reduce local vulnerability to recuoring disasters.

Table 3.8 Collaboration & Co-Financing with USAID Entities

USAID Operating Unit	FY 2000 Obligation
USAID/Global	2,109,906
USAID/AFR/Sustainable Development (SD)	1,100,000
USAID/LAC	3,313,000
USAID/Asia	2,610,000
USAID/West, South and North Africa (WSN)	430,000
USAID/BHR/Food for Peace (FFP)	639,820
USAID Mission Allotment	3,831,921
Total	**14,034,647**

Fifth, the cost of disaster response as well as the loss of human life and damage to productive assets and economic infrastructure are likely to be higher in years to come. Growing urbanization and industrialization along with high population growth rates, rapid environmental degradation, and inadequate enforcement of land use policies and building codes compound the lethal impact of disasters. More than one billion people are currently living in unplanned shanty towns, 80 percent of the 50 fastest growing cities are located in earthquake zones, more than 450 million people live in drought prone areas, and another 100 million people live under a constant threat of floods.

As shown in Table 3.9, in FY 2000, OFDA obligated more than $50.1 million in disaster response for natural, and human-caused hazards. This amount covered (a) the cost of emergency and relief commodities including logistics, shipping and transportation; (b) grants to implementing partners for emergency response; (c) technical and administrative support; and (d) US Ambassador's obligating authority.

Table 3.9: FY 2000 Response To Natural and Human-Caused Disasters

Disaster Type	Obligation
Accidents	149,859
Cyclones	6,590,461
Disease Epidemic	129,355
Drought	22,911,177
Earthquake	3,773,092
Fire	25,000
Floods	15,281,579
Hurricane	291,900
Storm	692,665
Volcano	293,194
Total Obligation	**50,138,282**

Sixth, OFDA will continue to provide emergency assistance to several ongoing complex emergencies in Sub-Saharan Africa, the Balkans and Indonesia. Civil unrest in Angola, Sierra Leone and Sudan and continuing volatility in the Balkans and Asia is likely to

continue. Many of these complex emergencies are protracted and resolutions remain elusive. In addition, some situations, in the Great Lakes region for example, are expected to worsen before they get better.

It is realistic to anticipate that more countries in Sub-Saharan Africa, Eastern Europe, and Asia may succumb to the type of internal unrest and civil strife that requires major emergency assistance. Countries that OFDA continues to monitor include Afghanistan, Kenya, Zimbabwe, Zambia and Somalia, Indonesia, and Montenegro.

As shown in Table 3.10, in FY 2000, OFDA obligated close to $ 128.2 million to respond to and mitigate the effects of complex emergencies. This amount includes obligations for emergency commodities, grants to implementing partners, and for technical and administrative assistance.

Table 3.10: FY 2000 Response to Complex Emergencies

Country	Amount Obligated
Afghanistan	5,541,947
Albania	312,898
Angola	6,665,994
Burundi	13,271,130
Congo/Brazzaville	4,013,683
Democratic Republic of Congo	12,931,593
Eritrea	5,465,384
Ethiopia	1,384,097
Federal Republic of Yugoslavia	22,249,681
Indonesia	10,955,545
Rwanda	1,148,568
Serbia-Montenegro	141,906
Sierra Leone	11,772,847
Somalia	8,388,598
Sudan	22,023,691
Uganda	1,973,372
Total Obligation	**128,240,934**

ANNEX 1: Case Studies

Eritrea: Drought and Complex Emergency

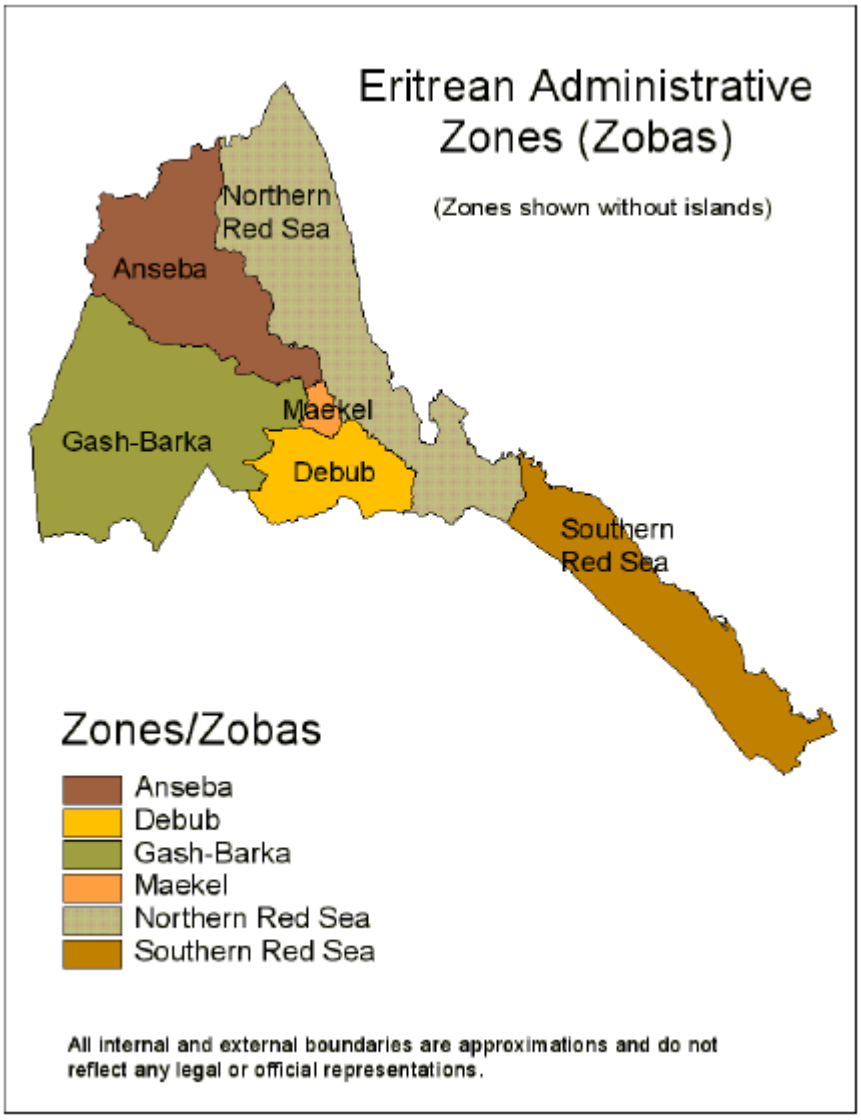
Nature of Emergency	• **Border conflict with Ethiopia which began in May of 1998** • **Drought in most parts of Eritrea**
Number of People Affected by the Border Conflict with Ethiopia	• **1.1 million people who fled as Ethiopian forces advanced during May-June 2000 fighting**
Number of People Affected by the Recurrent Drought	• **Over 370,000 people, mostly in Anseba, Northern Red Sea Zone and Southern Red Sea Zone**
Amount of United States Government (USG) Assistance	• **OFDA = $5.9 million** • **Other USG Assistance = $11 million**

Overview and Nature of Crisis

During FY 2000, two developments occurred that had major implications for the humanitarian situation in Eritrea. A third round of hostilities between Eritrea and Ethiopia, which took place during May and June 2000, led to large-scale displacement of civilian populations away from the disputed border areas to locations both within and outside Eritrea. Most fled from the war-affected border regions of Debub and Gash Barka, to the less-affected central and northern zones. Approximately 92,000 took refuge in Sudan, Yemen and Djibouti. Of the estimated 1.1 million Eritreans displaced by the fighting, 90% were women, children, and the elderly. As much of the fighting took place in the highly fertile Gash Barka and Debub regions, where 70% of the national agricultural output is produced, displacement from these areas led to major disruptions to agricultural production.

The war-related emergency in Eritrea was further exacerbated by a region-wide drought. The protracted drought that affected much of the Horn of Africa impacted an estimated 370,000 people in Eritrea. Three consecutive years of erratic and inadequate rainfall forced many agro-pastoralists, particularly in the Anseba, Northern Red Sea, and Southern Red Sea zones, to increasingly rely on traditional coping mechanisms, such as wage labor and remittances, for survival. Also, in the face of rising cereal prices, households were gradually forced to sell livestock, often seen as a last coping mechanism, in order to purchase necessary quantities of grain. With shortages of food, safe drinking water, and inadequate health services, the worst affected people became highly vulnerable to malnutrition and related diseases. As with the war-affected displaced, the most susceptible groups consisted of young children and women, especially nursing mothers.

During the course of the year, it became increasingly difficult to differentiate between the effects of the two emergencies and the groups affected by them. Many households suffered the compound impacts of war, drought, and poverty. Prior to the May 12, 2000 offensive, the United Nations Country Team had estimated the drought and war affected population at 583,000. This included approximately 371,000 war-affected (including IDPs, deportees, and host communities) and 211,000 drought-affected persons. Following the resumption of hostilities in May 2000, the number of war-affected quickly rose to more than a million. Meanwhile, drought conditions worsened, mainly in Anseba, the Northern Red Sea and Southern Red Sea zones. By the end of June 2000, approximately 1.6 million Eritreans were affected by war, drought, or a combination of both.



In addition, pastoralists in the Northern Red Sea and Southern Red Sea zones were affected by a renewed import ban imposed by Saudi Arabia on livestock from the Horn of Africa because of the fear of Rift Valley Fever. While it may also affect the long-standing livestock trade with other Gulf States, the Saudi Arabia restriction has far-reaching implications on the economic security of pastoralists along the Red Sea coastal areas. Some of the immediate effects include:

- Decrease in the purchasing power of pastoralists
- Increase in the price of commodities in local markets, with consequences to trade regarding livestock verses grains, resulting in reduced food security.

The cumulative effects of war and drought have included widespread human suffering and hardship. In response, the Government of Eritrea, donors and the humanitarian community made complementary efforts to assist the most vulnerable war- and drought-affected groups.

The Office of US Foreign Disaster Assistance (OFDA) dispatched a Disaster Assistance Response Team (DART) In May 2000 to assess conditions and provide emergency assistance. As shown in Table 1, OFDA provided $5.9 million for emergency health/nutrition, water, sanitation, shelter, clothing and emergency seeds for agriculture. OFDA's assistance was implemented through international NGOs (Africare, CARE, International Medical Corps (IMC), Mercy Corps International (MCI)), the International Committee of Red Cross (ICRC) and United Nations agencies including the United Nations Development Program (UNDP), United Nations High Commissioner for Refugees (UNHCR), United Nations International Children's Fund (UNICEF) and United Nations World Food Program (UNWFP) (see Table 1).

Prospects for the Future

The prospect for quick recovery and self-reliance in Eritrea is bleak. The at-risk population will need continued emergency assistance to reduce suffering and slow the mortality rate. Both the drought and the war continue to pose serious humanitarian consequences.

Eritrea is a chronically water deficit country. It is also a grain deficit country even in years of good harvests. The drought has undermined grain production and has decimated livestock in the central highlands and coastal lowlands. In addition, the war with Ethiopia has devastated the major grain producing areas of the country along the southern border with Ethiopia.

Even with satisfactory cereal production, household destitution due to adverse conditions over extended periods of time has dramatically reduced household access to food markets. Many households depend on transfer payments from family members living abroad, and on government food rations.

Since mid-November 2000 there has been some rain in the highlands and parts of the Northern and Southern Red Sea zones. This has enabled many agro-pastoralists to plant maize and sorghum. While the sorghum harvest has been good, the maize crop depended on adequate rains continuing through the end of March 2001.

Even if there is adequate rainfall, household destitution will remain high for several years to come. Small landholdings coupled with (1) adverse conditions over extended periods of time that have dramatically reduced household access to food markets, (2) inability to buy, lease or sell land in private markets, and (3) the ban on livestock and small ruminant exports to Saudi Arabia and to the Gulf States means low agricultural productivity, low household income and insufficient access to food markets.

Consequently, many households will continue to depend on transfer payments from family members living abroad and on government food rations.

The border conflict with Ethiopia does not appear to be over despite the signing of a peace agreement and the deployment of a United Nations Peace Keeping Force. There are indications that Eritrea may resort to force once more to regain territory lost during the latest Ethiopian offensive. There are indications that both sides are arming themselves at the cost of their nations' economic and social development.

Without strong economic ties with Ethiopia, Eritrea's economic viability is questionable. The country is resource poor, human capacity is weak and the prospect for foreign direct investment will remain very weak until the security situation stabilizes and government economic and political policies are realigned to attract more private domestic investors[10].

Methodology

Data for this case study was compiled from document reviews, interviews of selected USAID/Eritrea, NGOs, UN agencies, and Eritrea government (ERREC) personnel and expert observation. In addition, NGO (CARE) project site was visited and selected beneficiaries were interviewed during a visit in Eritrea between January 22, 2000 and January 26, 2000.

Impact of OFDA's Assistance

Interviews with selected implementing partners (IPs), feedback from selected beneficiaries, and review of IP documents indicates that *OFDA's assistance has alleviated the suffering of both war and drought-affected populations by meeting critical emergency needs of the most vulnerable groups*. Most of OFDA's implementing partners have met or exceeded their objectives and performance targets. Wide-scale malnutrition, morbidity and mortality was averted by the timely distribution of shelter material, cooking utensils, water containers, and the provision of safe water and sanitation facilities, emergency health care services and nutrition and emergency agricultural assistance to the most vulnerable groups.

Emergency Health/Nutrition

OFDA's support of International Medical Corps, Mercy Corp International, ICRC, UNICEF and WFP has alleviated the suffering of approximately 350,000 war and drought affected vulnerable people in Gash Barka, Debub, Anseba and Northern Red Sea zones. IMC's activities were concentrated in Tesseni, Haikota and Barentu, and

[10] Thousands of Muslim Eritreans who were part of the original Eritreans People Liberation Front (EPLF) movement still live outside Eritrea as refugees in Sudan and Ethiopia. Despite the fact that Eritrea is a member of the Arab League, the ruling party has excluded them from participating in Eritrea's political system. From time to time Sudan and Ethiopia have trained and armed these groups to fight against Eritrean government forces.

IDP camps in Gash Barka. IMC's grant objective was to provide emergency primary health care and nutritional support to the greatest number of beneficiaries in the IDP camps and returnee communities of Gash Barka.

IMC operated three mobile primary health care clinics. These clinics provided badly needed primary health care services including EPI, curative care, and prenatal care. In addition, IMC conducted epidemiological surveillance, nutritional monitoring and health education. IMC also provided training to the Ministry of Health staff on nutrition monitoring and epidemiological surveillance. In addition to the 3 mobile clinics, IMC had also established supplementary feeding centers. Overall, IMC's activities benefited 56,000 IDPs in Adi keshi, Dige and Molober, and about 67,000 returnees to Tessebei, Haykota and Barentu.

Mercy Corps International procured and distributed supplementary food 'Dura Milk and Kerkebe' (DMK) rations[11] to IDP camps, host families and returnees in Debub Zone. The grant's primary objective of "increased caloric intake and nutritional knowledge of young children displaced by the border war emergency" was met. MCI's activities benefited more than 23,000 people per month.

MCI implemented its targeted supplemental feeding program in Debub Zone -- Areza, Adi Quala, Mai Mini and Emni Haili. Program activities were carried out in 13 MOH-run health facilities (1 IDP Camp and 12 non-camp MOH facilities) as well as five outreach sites. Two of the outreach sites are in Adi Quala and the other three are in Areza sub-zone. Outreach activities were implemented in remote communities that were fairly large, approximately 10,000 people, and that were a significant distance from the nearest health facility, about 15kilometers.

MCI targeted children 6-59 months of age, and pregnant and lactating women. The first "tier" of beneficiaries was children 6-59 months of age who were <80% weight-for-height (WFH) and pregnant and lactating women. There were 6,000 children 6-59 months of age who were <80% WFH and 2,000 lactating and pregnant women in this group. This group received 4kg of DMK per month per person to improve or maintain their nutritional status.

The second "tier" of beneficiaries included children 6 to 59 months of age who are >80% but <85% WFH. This group received 1kg of DMK per child per month.

In addition to the provision of DMK rations, MCI also provided basic health and nutrition education to beneficiaries.

Through OFDA funding, ICRC airlifted food, shelter and medical relief supplies in southwestern Eritrea to meet the emergency needs of war-wounded and war-displaced persons. It airlifted and distributed high-energy biscuits to IDP camps, and about 15 tons of medical supplies. In addition, in order to alleviate the urgent need for clean

[11] 'Dura Milk and Kerkebe' (DMK) is a locally manufactured version of UNIMIX

water, ICRC airlifted and distributed 5-tons of water and sanitation material (bladder tanks, distribution rumps, etc) and 8,200 buckets. Its targeted beneficiaries included:

- 5,000 war-wounded at the Halibet Hospital in Asmara and via the Ministry of Health in other treatment centers.
- 100,000 IDPs – Gash Barka and Anseba provinces in south-eastern Eritrea including the Aderde, Debat, Keren, Hagaz, Herena, Salina and Zoorun camps.

OFDA also supported UNICEF for the provision of emergency health, nutrition, water and sanitation to address emergency needs of the war and drought affected vulnerable groups in Gash Barka, Debub, Anseba and Northern Red Sea zones. UNICEF's grant objectives were articulated as:

- Prevent deterioration of nutritional status of 200,000 children under the age of 5 years, pregnant and lactating women affected by both the conflict and drought through the provision of 1400 MTN of supplemental feeding for four months. ($609,000)
- Monthly nutritional monitoring for children under five and women in both the conflict and drought-affected areas to facilitate the undertaking of targeted interventions aimed at improving nutritional status and morbidity and mortality rates. ($100,000)
- Set up effective field monitoring system to track interventions for improving nutritional status of displaced persons, deportees and drought affected children and women. ($41,000)
- Provide access to safe water and sanitary facilities for war affected people with the aim of reducing the prevalence of water-borne and hygiene related diseases. ($750,000) Beneficiaries 150,000 people.

According to UNICEF/Eritrea staff who were interviewed for this case study, all these objectives have been met. Using the funding provided by OFDA and other donors to address the deteriorating health and nutritional status of women and children and to prevent the spread of preventable disease in IDP camps, UNICEF took a number of measures, including the provision of 400,000 doses of measles vaccines, 850,000 auto-disabled syringes for immunization and 8,000 incinerator boxes to dispose of used syringes. Routine immunizations and measles supplementary immunizations were conducted in all IDP camps. More than 100,000 children were vaccinated and given vitamin A since March 2000. UNICEF also distributed to MOH clinics and IDP camps an assortment of essential drugs to prevent the outbreak of preventable diseases.

In addition, UNICEF provided about 900 metric tons of DMK to meet the immediate nutritional needs of both drought and conflict-affected children and women. In addition, micronutrient deficiencies were addressed through the provision of Glucose, Oral Rehydration Salt (ORS) and a combination of multivitamin tablets and syrup. Through the Ministry of Health and in collaboration with SCF/UK, UNICEF resumed monitoring the nutritional status of children in IDP camps and in drought-affected

areas that was temporarily disrupted during the war. Three ambulances (valued US$100,000) were provided to health centers in the drought affected areas to support hospital referral of women and children.

As part of its ongoing support to provide safe water and sanitation facilities to IDPs and drought-affected people, UNICEF provided 100 sets of 5,000 liter collapsible water bladders, 50 sets of 10,000 liter bladders and six modular rigid water tanks of 10,000 liters capacity. In addition, 5,000 packets (50 tablets each) of water purification tablets and chlorine were supplied.

A great deal of concern in IDP camps centered on the sanitation sector, as IDPs continue to prefer traditional open-air defecation even when latrines are provided. However, UNICEF's support to the Ministry of Health and NGOs working in the camps, through training community members and mobilizers on improved sanitation and latrine construction, seems to have partially addressed the sanitation problem.

UNICEF was also engaged in water resources development in the drought-affected area and in some IDP camps. It dug a total of 7 wells that benefited 50,000 people in the drought affected areas and 150,000 IDPs in and around Kerren. In addition, these water resources development activities have generated employment for community members. Women oversee the water points, and collect commissions from the users.

WFP was provided funding to airlift and distribute 600 metric tons of high-energy biscuits to the most vulnerable groups in Anseba, Debub, Gash Barka and the Northern Red Sea zones. These high-energy biscuits provide 2,100 kcals per day and were distributed in camps or to those in transit to designated locations. A total of 60,000 people were assisted in this way.

Shelter

OFDA provided funds to Africare, UNDP, and UNHCR, to assist IDPs with their emergency shelter needs. The majority of internally displaced persons, who had left their homes in a hurry, were without any shelter at all. In addition, the rainy season in Eritrea had started and conditions in the valleys were extremely harsh. With most of the men aged between 18 and 40 at the war front, 70 percent of the IDPs were children and 25 percent were women.

In addition to the lack of shelter, many families needed kerosene stoves and kerosene for cooking their meals, as there was no firewood available in areas hosting the displaced. Moreover, given the high number of women of reproductive age among the targeted population, and the dearth of options they had to deal with their monthly period, the provision of sanitary napkins met an urgent health and sanitation need.

To meet the emergency shelter needs of the IDPs, Africare procured and distributed sleeping mats, blankets, kitchen sets, jerry cans, water storage containers, soap and feminine hygiene supplies for residents of Zula Camp to approximately 6,500 IDPs. UNDP distributed plastic sheeting, blankets, 700 tents and 1,600 water jugs for approximately 50,000 IDPs located in Anseba, Debub and Gash Barka zones. UNDP

also provided plastic sheeting, rope, kitchen sets and blankets to the Eritrean Relief and Refugee Commission (ERREC) to benefit 50,000 IDPs in Anseba, Debub and Gash Barka zones.

In order to meet the emergency shelter needs of many of the war-displaced populations in Debub and Gash Barka zones, UNHCR procured and distributed 10,000 plastic sheeting and shelter kits and 62,000 blankets [12]. In addition, it distributed 25,000 kerosene stoves with 3-months of fuel supply, and 17,500 bags of sanitary napkins. A total of 240,000 people benefited from UNHCR's activities.

Agriculture/Food Security

The Northern Red Sea Zone is chronically vulnerable to drought, with average annual rainfalls less than 200 mm, and potential evaporation rates ranging from 1600-2000 mm. It is mostly a pastoral area, with certain areas receiving floodwaters from seasonal rivers during the rains in the highlands, and some areas receiving "winter rains" from December to March.

Agriculture in the Northern Red Sea Zone relies primarily on the ability of the community to capture the highland rainfall by channeling floodwaters down to the lowlands onto prepared bunded fields. Even after the surface water dries up, the floodplains provide sufficient antecedent soil moisture to establish a crop. However, in order to mature and produce a good yield, the planted crops depend on supplemental moisture from winter rains (December to March).

To successfully raise livestock under the harsh conditions prevailing in the Northern Red Sea zone, pastoralists must migrate with their herds to exploit seasonal pastures in different areas. Lowlands offer grazing during the winter rains, but that resource rapidly diminishes after about March. Animals are then fed on the fodder remaining from crop production until the rains begin in the higher elevations. Fodder for livestock is as important to the prevailing farming system as the grain is for human consumption.

For much of the past three years, little or no rain has fallen on many parts of the Northern Red Sea zone. Although not affected directly by the war, much of the population is extremely vulnerable, as their livelihood options have been increasingly narrowed by the extended drought. The drought–affected population in the Northern Red Sea zone in August 2000 was estimated at 140,000 people or 35,000 households (see Table 2).

The drought has affected both the grain harvest and livestock. As of this writing, the region has lost about half of its livestock and the remaining are too weak to be used for

[12] The shelter kit included: 2.5x10x400cm timber planks; 10mm x 12m iron rod to be cut into 50cm pieces for pegs; 100 3 inch nails; hammer; cutting machine to cut the iron rods; square; ruler; 4mm x 200m nylon rope; iron bender to bend the pegs; and 4 x 10 plastic sheeting.

plowing and other work. The milk supply was also low. Almost no seed stock remained after two completely failed harvests. The diminished size of herds has depleted reserves used by agro-pastoralists to pay for the purchase of seeds and for mechanical tilling by tractors, even at subsidized government rates.

Table 2. Number of Drought Affected Beneficiaries

Sub-Zone	Households	Individuals
Foro	13,067	52,354
Afaabet	743	2,102
Karura	12,369	56,447
Shieb(Wokiro)	711	3,267
Massawa (Inberemi)	336	1,439
Gelalo (Bada)	1,229	6,666
Ghindae	6,545	17,725
Total	35,000	140,000

There is a high rate of malnutrition but no one has died and there has not been a need for therapeutic feeding. Food is distributed through Kebabi (village) administrators, who prioritize the neediest. The main health problems reported included diarrhea, malaria, respiratory infections and skin conditions. However, none of these have reached epidemic levels.

With OFDA funding, CARE provided emergency seeds and tools assistance to this drought affected population with the aim of increasing agricultural production of maize, millet and sorghum. CARE implemented its activities in partnership with a local NGO, Eritrea Vision.

The breaking of the drought in the Northern Red Sea Zone coupled with strengthened partnerships between CARE, Eritrea Vision (local NGO) and the Ministry of Agriculture ensured rapid, and efficient program implementation. Timely interventions enabled farmers to prepare the land and sow the seeds in time to benefit from the first good rains in 3 years. 6,763 farmers benefited from these programs. The expected harvest is 5,000 tons of cereals, about 1.2 tons per beneficiary family. This should enhance the food security of targeted beneficiaries.

With funding from OFDA, WFP airlifted 8 rubbhalls for food storage in IDP camps, temporary settlements, host communities and areas of return. This will protect the food grains from insect infestations and spoilage in the harsh weather.

Table 1: USAID/OFDA FY 2000 Eritrea Program Summary

Implementing Partner	Sector	Geographic Location	Activity	Beneficiaries	Duration	Amount of Grant
CARE	Agriculture	North Red Sea	• Seed procurement, land preparation, planting of maize and sorghum seeds for drought-affected farmers.	103,745 people	6 months	$350,000
UNWFP	Food Security	Gash Barka, Debub, Anseba, N. Red Sea Zone	• Airlift of 8 rubbhalls for food storage in IDP camps, temporary settlements, host communities and areas of return		3 months	$145,000
IMC	Health	Gash Barka	• 3 Mobile Health Clinics for primary health care services; • Nutrition status monitoring; • Training of MOH staff, • Establishment of SFCs in targeted areas	120,000 people	3 months	$156,209
MCI	Health	Debub	• Procurement and distribution of supplemental food (DMK) rations for IDP camps, host families, and returnees.	23,078 people per month	3 months	$360,000
ICRC	Health/ Nutrition, and Clothing	Southwestern Eritrea	• 8 rotation of an airlift to provide high-energy biscuits, medical supplies, blankets, tarpaulins, buckets and to IDPs and war-wounded populations	100,000 people	3 months	$280,000
UNICEF	Nutrition, Water and Sanitation	Gash Barka, Debub, Anseba, North Red Sea	• Supplementary feeding for children under 5 years and pregnant and lactating women; • Nutritional status monitoring; • Provision of safe water and sanitary facilities through tankering and repair of boreholes.	250,000 people	4 months	$1,500,000
UNWFP	Nutrition/ Health	Gash Barka, Debub, Anseba, North Red Sea	• Airlift of 600 mt of high energy biscuits	60,000 people		$330,000
AFRICARE	Shelter/ Non-food Items	Debub	• Procurement and distribution of sleeping mats, blankets, kitchen sets, jerry cans, water storage containers, soap and feminine hygiene supplies	6,500 people	3 month	$97,000

Implementing Partner	Sector	Geographic Location	Activity	Beneficiaries	Duration	Amount of Grant
			for residents of Zula Camp.			
Commercial 707	Shelter/ Non-food Items		• Airlift of tents/jugs			$85,500
UNDP	Shelter/ Non-food Items	Anseba, Gash Barka, Debub	• In-kind contribution and airlift of plastic sheeting, blankets, monitoring	50,000 people	3 months	$670,560
UNDP	Shelter/ Non-food Items	Anseba, Gash Barka, Debub	• In-kind contribution and airlift of 700 tents, 4,250 blankets, 1,600 water jugs			$150,334
UNDP	Shelter/ Non-food items	Anseba, Gash-Barka, Debub	• Supply plastic sheeting, rope, kitchen sets, and blankets to the Eritrean Relief and Refugee Commission (ERREC) for IDPs.	50,000 people	3 months	$984,710
UNHCR	Shelter/ Non-food Items	Gash Barka, Debub	• In-kind contribution and transport of 1,000 rolls (10,000 sheets) plastic sheeting; 20,000 blankets			$380,000
UNHCR	Shelter/ Non-food Items	Gash Barka, Debub	• 10,000 shelter kits (wooden frames to support plastic sheeting), 25,000 kerosene stoves with 3-month supply of fuel, 17,500 bags of sanitary napkins & 42, blankets.	240,000 people	6 months	$1,000,000
Admin/Personnel						$52,833
TOTAL						**$5,921,890**

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Ethiopia: Drought and Complex Emergency

Nature of Emergency	• **Border war with Eritrea** • **Drought in most of Ethiopia**
Number of People Affected by the border war with Eritrea	• **300,000 IDPs in the Afar and Tigray Regions** • **45,000 Eritreans in Ethiopia-controlled territories**
Number of People affected by the recurrent drought	• **10 million people including 1.7 million children under five years of age and 850,000 pregnant and lactating women. Drought-affected areas include Somali, Oromiya, Tigray, Amhara, Afar, Gambella, and SNNPRS regions. Pastoralists and agro-pastoralists in South Eastern part of Ethiopia were hardest hit by the drought.**
Amount of USG Assistance	• **OFDA = $14.7 million** • **Other USG Assistance = $111.7 million**

Overview and Nature of Crisis

During FY 2000 Ethiopians endured the effects of a border conflict with Eritrea, and the impact of the drought that affected the Horn of Africa. The border war, which erupted in May 1998, displaced more than 300,000 people in the Afar and Tigray regions, and an additional 45,000 Eritreans located in Ethiopia-occupied territories in and around Senafe. The border war, however, had wider economic, political and livelihood implications.

For example, development activities were disrupted and most resources were diverted to support the war effort. The private sector sustained heavy economic losses. The available trucking capacity was absorbed by the war effort, and commodities could not be transported to and from farm to market in a timely fashion.

The May 2000 Eritrea-Ethiopia border conflict erupted at a critical time, when Ethiopians were going to the polls to elect zonal, regional, and national political leaders. Many people allege that the election was irregular and that the ruling party stole the election using the war as a cover.

The impact of the drought was also widespread. It affected the Afar, Tigray and Amhara regions in the north and northeast, and Oromiya, Southern Nations, Nationalities, and Peoples (SNNP) and Somali regions in the south and southeast, and Gambela in the southwest. According to international non-governmental organizations (NGOs), the International Committee of the Red Cross (ICRC) and the United Nations Children's Fund (UNICEF), by March 2000, more than 10 million people, including 1.7 million children under 5years of age, and 850,000 pregnant and nursing women were at risk of starvation. The most vulnerable groups included:

- the pastoral populations in the northeast, south, and southeast of the country and Gambela;
- the belg (short rains)-dependent population, some of whom experienced their fourth consecutive crop production failure; and
- the meher (long rains)-dependent populations because of insufficient and late meher rains in pocket areas where crop failure was experienced during flowering and grain filling stages.

Three consecutive years of low and irregular rainfall, coupled with high population density, overgrazing, land erosion, skewed landholding and tenure systems, ethnic government policies, and poor agriculture and marketing policies resulted in limited agricultural productivity. It is estimated that in some areas pastoralist have lost close to half of their livestock holdings due to lack of water and pasture. Both the short *(belg)* and long *(mehir)* rains failed. Each year agricultural output had decreased by approximately 30 to 50 percent while the population has grown at the rate of 3.0 percent per annum.

Low water levels in three hydroelectric reservoirs also meant diminished electricity production. Power rationing caused interruptions in services every three days throughout the country. Due to high surface temperatures in the Indian Ocean, the eastern half of Ethiopia continues to experience below average rainfalls. The hardest hit areas include the regions of the Southern Nations, Nationalities, and People, Oromiya and the Somali. According to the Disaster Prevention and Preparedness Commission (DPPC), the 2000 belg harvest in the North Omo zone was only 48% of the 1999 belg harvest level.

Livestock losses were also very high. According to the Oromiya Disaster Preparedness and Prevention Bureau, during the 1996 drought pastoralists in some Peasant Associations (PAs) lost between 25 to 85 percent of their livestock herds. Similarly, the erratic, uneven and below normal rainfalls in 1998 and 1999 resulted in shortage of pasture and water. Consequently the condition of calves and milking cows deteriorated. It severely weakened the cattle herd and eventually led to significant level of cattle mortality.

The failure of the rains during the flowering stage of coffee plants in February and March 2000 and the spread of Coffee Berry Disease limited the coffee harvest. Production from plantations and peasant farmers was reduced by 20% to 50% over the past two to three years. As coffee comprises 80% of Ethiopia's agricultural export earnings, this has significantly reduced national and household incomes.
In addition, pastoralists have been and will continue to be, affected by the renewed import ban imposed by Saudi Arabia on livestock from the Horn of Africa due to the fear of contagious Rift Valley Fever. While this may also affect the long-standing livestock trade with other Gulf States, the Saudi Arabia ban has far-reaching implications on the economic security of pastoralists. Some of the immediate effects include:

- A decrease in the purchasing power of pastoralists,

- An increase in the price of commodities in local markets with negative consequences on terms of trade. For example, cattle are sold for the same price as sheep.
- Shortages of veterinary drugs and supplies in local markets, leading to deteriorating health of livestock, resulting in reduced food security.

The cumulative effect has been widespread human suffering in many parts of Ethiopia. OFDA responded by providing emergency assistance to alleviate human suffering. As shown in Table 1, OFDA provided $14.8 million of grants for emergency health/nutrition, water, sanitation and emergency seeds for agriculture. OFDA's assistance was implemented by grants to 12 NGOs and 4 international organizations (see Table 2).

Table 1: OFDA's Support for Ethiopia Drought & War Affected

Sector	Vendors	Beneficiaries	Cost
Health / Nutrition	ACF*	33,600	$880,103
	CARE	176,000	$615,000
	Concern	6,000	$803,053
	GOAL	150,000	$621,349
	ICRC	188,000	$1,500,000
	SCF/UK	42,074	$1,000,000
	SCF/US	5,724	$312,441
	ARC	40,689	$473,811
	UNICEF*	505,076	$709,291
		1,147,163	**$6,915,048**
Water / Sanitation	CARE	147,000	$264,887
	CISP	3,820	$332,589
	COOPI	186,000	$346,004
	SCF/UK	2,570	$357,712
	SCF/US	233,333	$1,000,000
	ICRC	100,000	$148,000
		672,723	**$2,449,192**
Emergency Seeds & Tools	FHI	150,000	$149,454
	WV	125,000	$330,447
		275,000	**$479,901**
Other -- Coordination; Emergency Unit Support; Port of Djibouti and Berbera Rehabilitation; Road Rehabilitation; Logistics Support and Administration	OCHA		$537,275
	UNDP		$458,000
	WFP		$3,150,000
	USAID/Ethiopia		$47,000
	OFDA		$753,388
			$4,945,663
Total			**$14,789,804**

* The cost for ACF and UNICEF includes transportation cost for airlifting of Famix for supplementary feeding.

Methodology
This case study is based on data gathered from document reviews, interviews of selected informants, and expert observations during a visit in Ethiopia between January 28, 2000 and February 16, 2000. During this visit, selected USAID/Ethiopia, NGO and Ethiopian government personnel were interviewed. In addition, selected NGO project sites in the drought-affected region of Oromiya in southeastern Ethiopia were visited, beneficiaries interviewed and program impacts assessed.

Prospects for the Future
Prospects for the future are bleak. Extreme weather phenomena, disease epidemics and civil strife are expected to continue to vex the Horn of Africa. At-risk populations will continue to require emergency assistance.

At-risk populations have lived through consecutive years of crop failures, extensive livestock death and have exhausted their coping mechanisms. Personal assets are depleted and the vulnerable are in a very precarious situation. Even with satisfactory cereal production, household destitution would continue over the foreseeable future because of decreased access to markets.

Since mid-November 2000, there have been some rains in many of the drought-affected areas. In Borena, for example, the rangeland has somewhat recovered. The trees have green foliage. The cattle have gained weight and look healthy. However, there is no grain harvest and there is no milk because the camels, goats and cattle have not given birth. Therefore, both agro-pastoralists and pastoralists whose diet depends on milk and grains are still food insecure.

Even if there were adequate rainfall, household destitution would remain for several years to come. To begin with, landholdings are small. Other reasons include: (1) inability to buy, lease or sell land in the private markets because all land is owned by the government and peasant farmers are not allowed to exchange or leave their land; (2) high population density; (3) overgrazing, erosion, and rapid environmental degradation; and (4) the current ban on livestock and small ruminant exports to Saudi Arabia and the Gulf States.

Second, NGO-created dependence has reduced farmer productivity[13]. Farmers who were interviewed for this case study indicated that they intended to grow sufficient food to feed their families for only a few months, and depend on NGO food rations for the remainder of the year. The implication is that, because of the availability of food rations, farmers are unwilling to invest much on the land to grow their own food.

Third, except for Tigray Region, it appears that the Government of Ethiopia (GOE) has abdicated its social responsibilities to NGOs and donors. For example, most developmental activities are initiated and managed by NGOs without much support from the government, though the government is nonetheless keen to control activities of NGOs and citizens. From time to time the government has interfered with the

[13] Many of NGOs have been in the drought affected areas since 1984-86.

targeting of assistance to the most vulnerable groups. It has also kept food ration levels low, and consequently many farmers are not getting sufficient nourishment and are too weak to work on their farms[14].

Fourth, because of the border war with Eritrea, internal civil strife in many parts of the country, and skewed economic policies, economic productivity is low. Current underemployment outside Tigray Region is estimated at more than 75 percent and reaches 90 to 94 percent in some urban areas. Real per capita income is about $45[15].

The once vibrant private sector is almost bankrupt since all sectors of the market are dominated by party-statals (party-owned enterprises) that are monopolies in their respective sectors. Party-statals hire only cardholding members of the ruling party.

Fifth, there is an ongoing dispute between the central government and the targeted at-risk communities about the exact size of the population, even though 1994 census results were released in 1996. The number of needy people within the targeted communities is grossly understated by the central government agency, DPPC. For example, in February 2001, CARE estimated the number of vulnerable population in Yabello woreda in Borena zone at 61,000. However, DPPC reduced the estimate to 25,000 people. According to the woreda officials we interviewed for this study, this variance is a deliberate attempt by the federal government to keep the population count low in order to minimize resource allocations for health, education and other essential services. Consequently, there are severe shortages of essential drugs, trained health workers, teachers and classrooms. Many development activities are also being held up by lack of adequate funding from the central government.

Impact of OFDA's Assistance

Interviews with selected implementing partners (IPs), feedback from selected beneficiaries in Borena zone, and a review of IP documents lead to a conclusion that *OFDA's assistance has alleviated the suffering of the drought-affected population by meeting critical emergency needs of the most vulnerable groups*. Most of OFDA's implementing partners have also met or exceeded objectives and targets. Wide-scale malnutrition, out-migration, morbidity and mortality was averted through the provision of safe water and sanitation, emergency health and nutrition and emergency agricultural and livestock support to the most vulnerable groups.

Emergency Health/Nutrition

In the Somali Region, where malnutrition was most acute, OFDA made grants to Action Contre La Faim/France (ACF/F), International Committee of the Red Cross (ICRC), Save the Children/United Kingdom (SCF/UK), and Save the Children/United

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[14] We also suspect that the central government is using food rations and the size of the rations to influence kebele and woreda elections. Individuals that would vote for the ruling party's candidates are rewarded with larger food rations.

[15] The World Bank estimates per capita income at $100, while government economist have indicated that in real terms the per capita income to be at around $60 and private researchers have calculated the per capita income at around $45.

States (SCF/US) to carryout therapeutic[16] and supplementary feeding programs and undertake nutritional surveillance. Through funding to CARE, CONCERN, GOAL, and the American Red Cross (ARC), OFDA supported emergency feeding programs for vulnerable populations in the Amhara, Oromiya and Southern Nations, Nationalities, and Peoples regions.

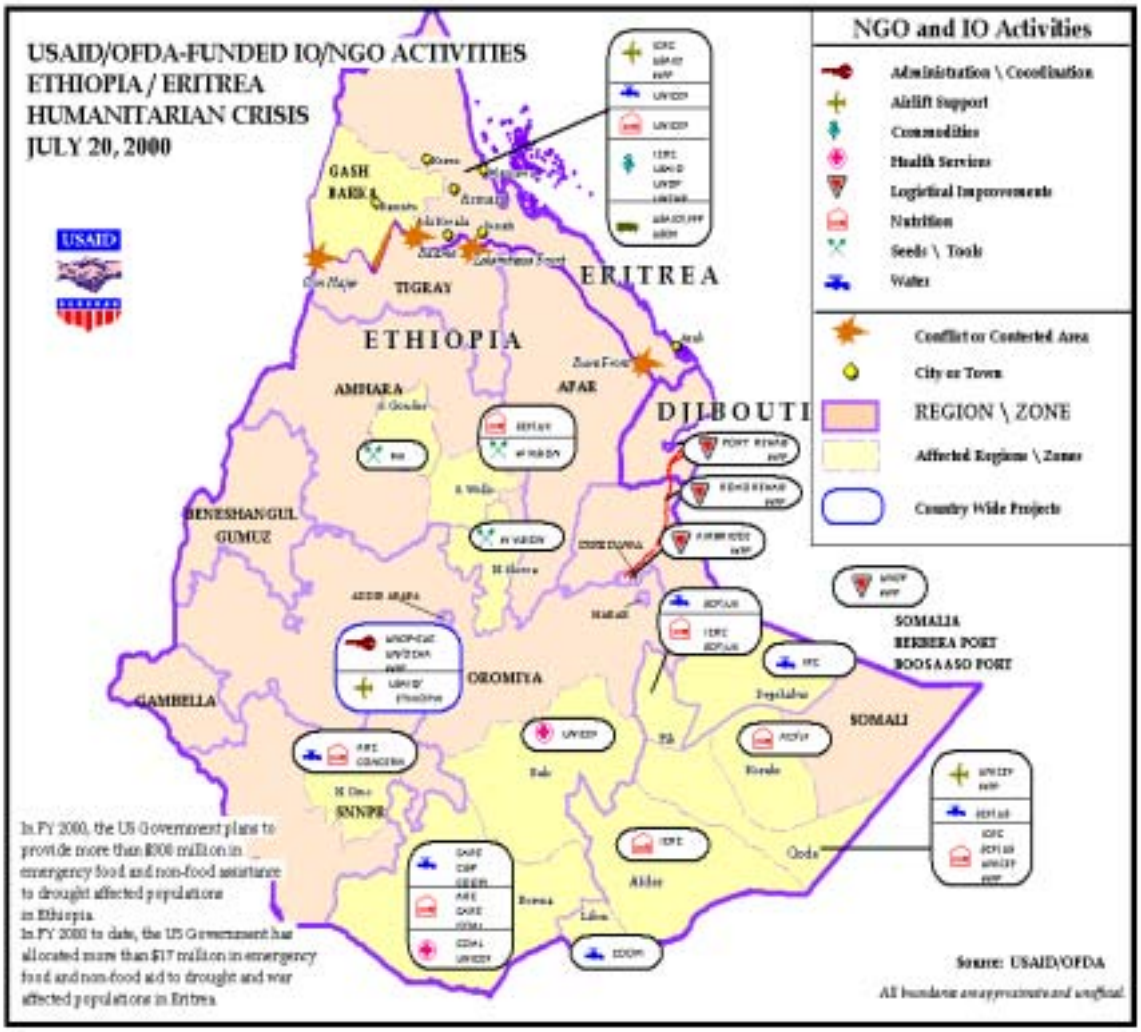
By December/January 2000, the situation in the Somali region had reached critical levels. Large number of people had left their homes in search of food and water and had begun to gather near large towns. OFDA funded several implementing partners to carry out needs assessments, and follow-up with a response to the emergency needs of the most vulnerable groups.

For example, ACF was funded to implement a therapeutic and supplemental feeding program and to provide emergency water in Korahai Zone in the Somali region. ACF's therapeutic feeding program was successful when a physician and nurse-nutritionist managed the program. While an expatriate nurse-nutritionist and a medical doctor managed the program, the patient recovery rate was more than 94 percent and the mortality rate was kept below 2 percent. (When the nurse-nutritionist and the medical doctor left, however, patient recovery rates declined and mortality rates increased.)

ACF's supplementary feeding program in Kebri Dehar, Maraacato, Dalaad, Waji-Waji, Geladid, Doboweyn and Dawacaale was also successful. Growth monitoring revealed that, in general, supplementary feeding was more effective when the child's family also received general food rations.

In February-March 2000, following alarming nutritional indices from a November 1999 nutrition survey, Save the Children Federation/US, in partnership with the Ogaden Welfare Society, commenced a relief effort in Gode. Gode zone, in the Somali region, was one of the areas most seriously affected by drought-related food insecurity. Gode experienced persistently high rates of global malnutrition, high crude death rates and under-5 mortality rates.

[16] We were informed by several international NGOs that the Government of Ethiopia had objected to the establishment of therapeutic feeding centers. Consequently, in many woredas, severely malnourished children were brought to the local MOH clinic, examined and the mothers were shown how to prepare the food and feed the child and released with a therapeutic food packet. The mothers were expected to bring the child to the clinic once every week for follow-up examinations.



Gode woreda (district) has a population of 130,000 people. It is a pastoral area, and was severely affected by the drought and an associated loss of livestock. Since April 2000, Gode has been the focus of a humanitarian response, including emergency health and selective feeding programs (SFP), measles vaccination campaigns, and water and sanitation programs. Despite high levels of food assistance provided to the area for three months by the government's Disaster Prevention and Preparedness Commission in conjunction with the International Committee of the Red Cross, a number of nutritional surveys conducted in the second quarter of 2000 revealed a prevalence of persistently high rates of global malnutrition[17].

A survey comprising 598 households, with 855 children between the ages of 6 months and 5 year, revealed unacceptable levels of global malnutrition and severe wasting. It also showed that that the majority of the acutely malnourished children were marasmic. The cumulative result for moderate and severe wasting in the sample

[17] Medicins Sans Frontiers Belgium. Nutritional survey and retrospective mortality assessment. Dean Ogaden, May 16-18, 2000

children, commonly reported as Global Acute Malnutrition (GAM) was 29.4% [CI:25.9 – 32.1][18] with 5.3% [CI: 3.9 –7.0] Severe Acute Malnutrition (SAM). The prevalence of wasting was much higher in children younger than 30 months (36.2%) compared to older children (26.7%).

SCF/US met its objective with regard to therapeutic and supplementary feeding programs in Gode town. Initially children were not recovering as quickly as expected due to shortages of medicines, suspected TB cases and lack of adequate clinical assessments and follow-up. In May, SC/USF received a WHO kit with essential drugs and treatment. In May the recovery rate improved substantially with the addition of SCF/US medical doctors and a fulltime nutritionist along with improvements in other standards, such as a new feeding protocol and treatment protocols. All staff members in the center had received proper training.

SCF/US's supplementary feeding program was also effective. The center was established to initially treat an expected population of 500 moderately malnourished children under five years of age, but had to deal with more beneficiaries. At the end of March there were 2,100 beneficiaries. In April admission increased to 2,383, and by May and June the numbers increased to 2,959 and 3,089, respectively. From July to September 2000, there were marked improvements in service delivery and in recovery rates. SCF/US continues to downsize feeding center operations and is shifting focus to outreach and follow-up.

CONCERN's[19] emergency health and nutrition interventions were directed at the drought-affected population in Damot Woyde. Damot Woyde is located in Northern Omo Zone, Southern Nations, Nationalities and Peoples region. It is 385 km South of Addis Ababa. The woreda has rugged, mountainous topography with valleys and gorges and is divided into 48 kebeles (villages). According to the Woreda Council 2000, it has a population of 173,000 and has a high population density, with between 125 to 742 people per square kilometer.

Following three successive poor harvests, including a complete failure of the main Mehir (long rains June/July 1999) crop, the population of Damot Woyde faced acute food insecurity. In April 2000, the Belge rain came two months late and the resulting harvest was very meager. The sweet potato crop, which is traditionally used to mitigate the effects of the hungry season, failed for a third consecutive season, and maize, which is usually harvested green in June/July, had not been planted at all. Even the coffee trees were burnt from the scorching heat. Most of the enset[20] in the field appeared to have been harvested. In normal circumstances only mature enset is harvested after it has been growing for 6-7 years. People reported that they were on

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[18] CI = 95% confidence interval with calculated cluster effect.

[19] CONCERN had been working in Damot Woyde since 1984, both in emergency relief and integrated rural development but had to leave the area in 1998 in line with GOE policy. In 2000, the regional authorities requested CONCERN to return Damot Woyde. CONCERN immediately began emergency assessments to identify emergency needs.

[20] Enset is a false banana plant, which is widely grown in Wolayita and the roots are harvested and put in a long process of fermentation teasing and drying for human consumption.

one meager meal a day and this was mainly enset. In addition, the availability of water and pasture for livestock was severely limited. Many households reported animal deaths, and an inability to sell livestock since demand was low.

The Wolayita region as a whole has been identified for a number of years as a food insecure area. This is due to a number of factors including high population density, small land holdings, serious soil erosion and reliance on rain-fed agriculture in an area that receives erratic rainfall.

CONCERN's two-stage 30-cluster nutrition survey, conducted between April 14th and 19th, 2000, revealed high levels of global and severe malnutrition among the Damot Woyde population. Prevalence of global malnutrition (weight-for-height) among children 6 to 59 months old was 25.6 % and prevalence of severe cases was 4.3%. CONCERN responded by opening three therapeutic feeding centers by mid-May, which provided 24-hour nutritional and medical care[21] for all severely malnourished children under five years of age. A team of expatriates (including 3 nurses, 1 nutritionist and 1 pediatrician) and approximately 320 local staff, many who had worked with CONCERN previously, staffed the center. By the end of September 2000, 874 children had been treated with the following results:

Average Across 3 Centers	**Month**				**TFC Target***
	June	**July**	**Aug**	**Sept**	
Recovery Rate (as % of exits)	91	96	99	100	>75
Mortality Rate (as % of exits)	3	4	1	0	<10
Default Rate (as % of exits)	6	0	0	0	<15
Average weight gain (g/kg/d)					
Marasmic	-**	-	14.6	16.0	>8
Kwashiorkor	-	-	10.7	8.2	>8
* Humanitarian Charter and Minimum Standards in Disaster Response (Sphere 2000) ** Not evaluated					

CONCERN instituted supplementary feeding for all moderately malnourished children under 5 years of age, and for pregnant and nursing women. This involved a fortnightly mobile distribution from 10 decentralized sites across the woreda. The general food ration included a 3.5 kg ration of CSB (approximately 900 kcal/beneficiary/day) for each child as well as such basic medicines as vitamin A, folic acid and mebendazole. By the end of September, 5,407 children under 5 years of age and 2,272 pregnant and nursing women had passed through (or were still being treated in this program) with the following results. These results indicate that CONCERN made significant progress in meeting its objectives. In some cases, Sphere targets were exceeded.

[21] All care administered followed standard WHO/MSF/CONCERN protocols.

Averaged Across 10 Centers (for all children <5 years)	Month				SFP Target**
	June*	July	Aug	Sept	
Recovery Rate (as % of exits)	48	64	88	84	>70
Default Rate (as % of exits)	23	36	12	16	<15
Average length of stay (weeks)	-	10.5	10.8	12.8	-

* At this stage many direct referrals to the TFCs were being included in SFC statistics. These cases account for the remaining 29% of exits. Additionally, a significant number of children found to be "cheaters", e.g., registered twice for feeding, were being counted as defaulters - some centers therefore had relatively high default rates in June and July.

** CONCERN, "Nutrition in Emergencies", 1996.

A general food ration was essential to ensure an effective targeted feeding program, and to prevent more people from becoming malnourished. The general food ration was also designed to minimize readmission to targeted feeding programs. CONCERN worked with the Woreda Council to increase food availability to the most vulnerable. CONCERN assisted the Woreda Council with the local purchase and distribution of general food ration (12.5 kg of grain per person per month[22]) to 54,000 of the most vulnerable people in the woreda for three months. Beneficiary lists were drawn up by the woreda authorities and verified by CONCERN to ensure nutritional eligibility of beneficiaries. It also repaired the woreda's truck and provided a small quantity of fuel. In addition, CONCERN provided training to the Woreda Council on food aid targeting and post distribution monitoring.

CONCERN conducted a second nutritional survey three months after the first survey, and found a dramatic improvement in the rate of global and acute malnutrition in Damot Woyde woreda (see below). A third survey in October 2000 showed stabilization in the malnutrition rate and identified a more positive food security environment.

Acute Malnutrition as Measured by Weigh-for Height

6 -59 Months of Age	April 2000	July 2000	Oct 2000
Global Malnutrition Z score <-2 and/or edema	25.6% (22.9 -28.5)	6.4% (4.3 - 9.2)	7.2% (5.0 - 10.1)
Severe Malnutrition Z score <-3 and/or edema	4.3% (3.2 - 5.9)	1.0% (0.3 -2.6)	1.0% (0.3 - 2.6)

CARE's emergency intervention in Borena was also successful in alleviating human suffering. Borena is one of the 12 zones of the Oromiya Regional Administrative Unit and is located in the extreme southern part of Ethiopia. In Borena Zone, three consecutive years of poor rainfall caused high livestock losses due to lack of pasture and water and poor to no grain harvest. Consequently, human health and nutrition status deteriorated to alarming levels. Children under 5 years of age were most affected.

Persistent drought condition in the Borena lowland woredas of Dire, Teltele, and Yabello caused socio-economic instability in pastoral and agro-pastoral communities.

[22] The food ration was in compliance with GOE National Policy.

Both pastoral and agro-pastoral communities were extremely vulnerable. The prevalence of moderate to severe malnutrition among children under 5 was above 24%. In addition, capability of the Ministry of Health to respond was strained. Essential drugs were out of stock.

Between March 2000 and December 2000, CARE provided emergency food assistance to over 177,000 people in the region below. In March 2000, close to 82.7 percent or 146,618 of the total population of Dire, Yabello and Teltele benefited from the emergency food assistance. Over time, the number of beneficiaries expanded.

- Yabello 24,592 – 53,671
- Dire 35,392 – 88,050
- Teltele 12,624 – 34,827

In addition to relief interventions, CARE also promoted the Employment Generation Scheme (EGS) to rehabilitate social services including pond, well maintenance, bush clearing, and dry-weather road maintenance. CARE's livestock de-stocking program was one of the most creative and successful interventions.

The livestock de-stocking program provided pastoralists an opportunity to exchange their weak (but healthy) cattle, animals they could not sell in the market or would be unable to maintain, in exchange for grains. At the same time, the meat from these cattle was dried and distributed as part of CARE's supplementary feeding program. CARE's bartering of these cattle prevented widespread death of livestock and despair among the pastoralists. (See Box 2 for the full story).
GOAL worked in two needy areas -- Borena Zone in Oromiya Region and Gode Zone in Somali Region. Activities were focused on clinical and supplementary feeding, provision of drugs and EPI campaign. GOAL purchased and distributed essential drugs and medical supplies to Ministry of Health clinics and centers in Yabello and Teltele. The objective was to ensure adequate health care for an already weakened population of 125,000 people in the two woredas. GOAL also participated in the zonal EPI campaign.

GOAL's supplementary feeding program clearly contributed to improvements in the nutritional status of the targeted population in both woredas. The clinical feeding program focused on those who continue to suffer from malnutrition despite continued feeding. The GOAL program provides additional quantities of Famix and oil every two weeks and growth is monitored at the clinic.

Box 2. CARE's Livestock De-stocking Program Converted Weak and Dieing Cattle into Lifesaving Food

CARE's livestock de-stocking program provided an opportunity for weakened cattle to be bartered for grain, with the cattle being slaughtered and the meat dried, processed and distributed to vulnerable to supplement monthly food rations. This program has enhanced the nutritional status of targeted pastoralists. In addition to the grain obtained through bartering weakened cattle, the meat has been used to feed malnourished children and other vulnerable members of the community.

Before exchanging cattle for grain, each animal is inspected by a veterinarian-technician at the center. Those animals determined to be healthy and fit for slaughter are selected and bartered for grain. Depending on the outcome of the diagnosis either the infected organs or whole part of the animal is discarded and incinerated.

Once the cattle are slaughtered, red meat is sliced, mixed with preservatives and flavorings (salt and hot pepper). The meat is then dried in a specially-built and well-ventilated drying shed for 3-4 days. Finally, 0.5 kg of dried meat is packed in a plastic bag prepared for distribution.

The slaughtering and meat preparation also created employment for 21 individuals from the targeted population. The number of cattle bartered for grain and the quantity of dried meat distributed to the community is shown below.

Center	No. of Cattle Bartered	No. Of Cattle Slaughtered	Quintal* of Maize Bartered	Kg. Of Meat Dried	Kg of Dried Meat Distributed	No. of Beneficiaries	No. of Pas** Benefiting
Adegelchet	510	501	353.3	1,828.7	1,828.7	8,064	12
Dubluk	775	773	648.4	3,908.0	3,908.0	9,151	10
Teltele	181	177	914.0	914.0	914.0	754	5
Total	**1,466**	**1,451**	**1,915.7**	**6,650.7**	**6,650.7**	**17,969**	**27**

* One quintal = 100 kilograms

** PAs = Peasant Associations

The American Red Cross (ARC), working in Ofa in North Omo zone, SNNPR provided supplementary feeding to approximately 40,689 moderately malnourished under 5 children, pregnant and lactating women, elderly and disabled people. In addition to nutritional surveys, ARC also trained the clinical staff of the Ministry of Health on nutrition assessments, growth monitoring and other clinical aspects of nutrition.

UNICEF was given funding for a measles vaccination campaign in conjunction with other implementing partners, and for the distribution of vitamin A supplements. Approximately 505,000 people in Bale and Borena zones in Oromiya Region have benefited from these activities. In addition, UNICEF airlifted emergency biscuits (BP5) and therapeutic milk (F75) for vulnerable groups in Gode Zone in Somali Region.

In cases where therapeutic and supplementary feeding programs were found not to be effective it is attributed to one or a combination of the following reasons.

- The child was severely ill from a disease related to a weakened immune system. Health workers in Borena suspect that some of the children could be HIV/AIDS infected. (see story in Box 3).
- Food is shared with other family members, so the targeted child is not consuming sufficient amount of food on a sustained basis.

Box 3. Traditional Cure for a Modern Disease

In Oromyia, particularly in the Borena tradition, both husband and wife can have extra-marital partners. The only requirement is that the husband meet and knows his wife's other partners. Traditionally, the wife's partner is given responsibility to care for the family while the husband is away from home. The Borena males travel widely to graze, sell or buy livestock. Along the way, they take on new lovers or partners. Because of this life style, STD and HIV/AIDS infections can spread very rapidly.

The population is aware of the problem. In the last traditional leaders meeting, which took place in Borena in 1999, the elders discussed the problem associated with HIV/AIDS and the need to change life styles. UNDP, the US Embassy and other donors provided assistance and were expecting a resolution from the leaders. After two weeks of intense discussions, the elders agreed to a resolution to solve the problem. ***They agreed to curse the disease, HIV/AIDS, instead of abandoning their thousand-year old tradition .***

Water/Sanitation

Since 1997 there has been an extraordinary lack of rainfall in the Horn of Africa. Three consecutive years of erratic and low rainfall resulted in crop failures, death of livestock, and the loss of rangeland. The areas most affected by the drought were those traditionally vulnerable to drought including the Somali Region. Other areas, which frequently have experienced what is referred to as "green famine" because delayed or insufficient rainfall, include Bale and Borena zones in Oromiya Region and SNNPR.

In these regions, water has always been a scarce and valuable resource. Traditionally, residents use natural and man-made ponds, and boreholes for both domestic consumption and for their herds. The optimal output of these ponds, however, depends on seasonal rainfall. Because there has been insufficient rainfall over the past three years, many of these ponds are dry. And due to a receding water table, many of the shallow boreholes have also dried up. The result has been a significant loss of livestock herds, the main means of livelihood and sustenance for the regions' pastoralists and agro-pastoralists.

In order to meet emergency water needs among the drought affected population, OFDA provided funding to CARE, Comitato International per lo Sviluppo Dei P (CISP), Cooperazione Internationale (COOPI), SCF/UK, SCF/US, ICRC and IRC for water and sanitation programs. Activities supported included emergency water tankering, construction and rehabilitation of water sources such as ponds, reservoirs, boreholes, wells, establishment and training of village water committees to maintain water points and construct pit latrines. OFDA's emergency

Deep-water wells and cisterns continue to provide potable water long after emergency assistance ends.

assistance has increased safe water supply for the drought-affected population. For the most part, these activities have prevented out-migration and the spread of water-borne diseases.

With funding from OFDA, CARE began tankering water to alleviate the situation in Dire, Yabello and Teltele woredas in the Borena zone for the most vulnerable Peasant Associations (PAs). The amount of water distributed, duration of assistance and the number of beneficiaries is shown below.

Woreda	No. of PAs	No. of Beneficiaries	Liters of Water Tankered	Duration
Dire	10	16,086	2,996,000	Sept. 99 – Sept.00
Teltele	8	19,313	761,398	Sept. 99 – Sept.00
Yabello	6	25,329	1,292,000	Sept. 99 – Sept.00
Total	24	60,728	5,049,398	

CARE is also constructing water reservoirs (cisterns) with a capacity of up to 100,000 liters for use by both human and livestock. A total of 20 cisterns are being constructed in Dire, Yabello and Teltele – 10 in Dire, 4 in Yabello and 6 in Teltele woredas. At present, five are completed, three have masonry work completed and the remaining have been excavated and in progress. When completed these cisterns will benefit 2,606 households. In addition to cisterns, CARE is also constructing three boreholes, two in Dire and one in Teltele. The drilling equipment is provided by CRS.

With regard to the provision of emergency water, in March 2000, SCF/US in collaboration with the local Water Resources Bureau and the Zonal Administration began tankering water to selected water distribution points in Gode, Denan, Todob and Daraye in the Somali Region. The following table summarizes the amount of water trucked.

Summary of SCF's Water Distribution in Gode Zone (in Liters)				
Destination	**Population**	**March**	**April**	**May**
Danan Village and IDPs	29,500	317,000	991,500	1,668,500
Darayo	7,000	113,000	88,000	319,000
Town Feeding Center	3,700	68,000	402,000	244,000
Todob	7,500	22,000	0	309,000
Borkayer	12,000		44,000	187,000
Bohol Hagari	0		16,000	0
Total	59,700	520,000	1,541,500	2,727,500

During the month of June 2000, more distribution sites were added to the program. A total of 4.2 million liters of drinking water were delivered to 47,839 beneficiaries, with a daily average of 4.49 liter per person. During July to September 2000, a total of 17.6 million liters of water were delivered.

SCF/US is collaborating with Medecins sans Frontiers/Belgium (MSF/B), Oxfam, and UNICEF in the Gode water distribution program. MSF/B is providing essential equipment and manpower to operate the pump used to fill water tankers operated by

SCF/US. MSF/B has also installed water bladders in Denan and other villages. Oxfam has established a water treatment plant to provide the clean and chlorinated water, which is distributed by SCF/US water trucks out of Gode town. UNICEF pays for fuel to run the trucks.

CISP, with funding from OFDA, is constructing water wells/boreholes to augment the water supply in Dire, Teltele and Yabello in the Borena Zone. ICRC has rehabilitated five wells in Afder in Somali region. COOPI was also funded to drill boreholes and rehabilitate traditional boreholes in Liban zone in the Somali region and in Borena Zone in Oromiya region.

Livestock/Agriculture

Grants were provided to Food for the Hungry International (FHI) and World Vision (WV) to procure and distribute seeds and tools to more than 54,000 farm households in the Amhara region. In addition, during the third quarter of 2000, following request by the Ministry of Agriculture bureaus in Yabello and Teltele, GOAL procured and distributed 53 metric tons of haricot bean seeds. Unfortunately, the harvest from these been seeds was meager and it was determined that the seeds were not appropriate for the environment.

Smaller herd size and prudent rangeland management can enhance pastoralist food security by increasing milk production.

CONCERN also procured and distributed seeds important to the area, including teff, sweet potato, wheat, maize and beans to 11,000 of the most vulnerable agro-pastoralist households in Borena zone. This enabled many impoverished agro-pastoralists to plant in July for the Meher season.

SCF/US also implemented emergency veterinary services programs. It trained and equipped six veterinary scouts and immunized 500,000 heads of cattle. Toward the end of September, preparations to vaccinate the different species of livestock - camel, cattle, sheep, goats, and equines were completed. Two teams of vaccinators were formed. These teams were provided with the following requirement of vaccines, two rented vehicles, and field equipment to begin vaccination of livestock:

Vaccines	**Number of doses**
Anthrax	60,000
Black leg	15,000
Pasteurollosis bovine	33,500
Pasteurollosis ovine	30,300

Table 2: Horn of Africa Humanitarian Crisis – Ethiopia

Vendor	Sector	Geographic Coverage	Program Activities	Number of Beneficiaries	Grant Duration	Grant Amount
ACF/F	Nutrition	Somali Region: Kebri-Dehar in Gode Zone, Geladid in Korahi Zone	• Therapeutic (at hospital in Kebri-Dehar) & supplemental (in Geladid) feeding centers to treat severely to moderately malnourished children • WFP emergency airlift and transport of 40 metric tons of biscuits (BP5) in support of ACF's nutrition program	33,600	4/00 – 3/01	$664,103 $216,000
American Red Cross	Nutrition	SNNP Region: Ofa in North Omo Zone	• Supplementary feeding program targeting children under 5, pregnant/lactating women, elderly, disabled • Nutrition survey • Training of health workers	40,689	5/00 – 1/01	$473,811
CARE	Water/Nutrition	Oromiya Region: Yabello, Dire & Teltele in Borena Zone	• Potable water provision through borehole repair/maintenance, construction of 3 new boreholes, water trucking • Improved village water storage capacity • Livestock de-stocking by trading weak cattle for grain and distribution of dried meat to vulnerable groups	147,000	5/00 – 4/01	$879,887
CISP	Water	Oromiya Region: Teltele in Borena Zone	• Increased water availability through water tankering, drilling/rehabilitation of boreholes, • Provision of water storage containers	3,820	5/00 – 3/01	$332,589
CONCERN	Water/Nutrition	SNNP Region: Demot Woyde in North Omo Zone	• Therapeutic & supplementary feeding and health care for children under 5 years of age and pregnant and lactating women • Rehabilitation of health centers • Provision of community-based outreach workers	6,000	5/00 – 12/00	$803,053
COOPI	Water	Oromiya Region: Liban in Borena Zone; Somali Region: Filtu in Liban Zone	• Construction of 3 hand-dug wells; 1 borehole with generator and pump • Establish village water committee for the management of the water points	186,000	5/00 – 4/01	$346,004
FHI	Agriculture	Amhara Region: Simada, Tach	• Provision and monitoring of seed packets to increase area under cultivation to 95% of	30,000 HHs	7/00 – 1/01	$149,454

Vendor	Sector	Geographic Coverage	Program Activities	Number of Beneficiaries	Grant Duration	Grant Amount
		Gayint, Lay Gayint in South Gonder Zone	normal year cultivation			
GOAL	Nutrition/Health	Oromiya Region: Yabello, Teltele in Borena Zone	• Supplementary feeding program • Access to basic/essential emergency health care • Measles and vitamin A campaign	150,000	7/00 – 1/01	$621,349
ICRC	Nutrition	Somali Region: Imi, Gode, Denan in Gode Zone; Adaadle in Afder Zone	• Airlift oil, biscuits, supplementary food to drought-affected pastoralists • Monitor distribution of supplementary rations	188,000	5/00 – 12/00	$1,500,000
IRC	Water/Sanitation	Somali Region: Gashaamo in Degehabur Zone	• Improve and increase water supply, access, source protection through rehabilitation/construction of dams and reservoirs, tinkering • Provision of pit latrine for migrant settlements	100,000	4/00 – 7/00	$148,000
OCHA	Coordination	Ethiopia	• Support of coordination, security, and airlift/airdrop preparedness activities	N/A	6 months	$537,275
SCF/UK	Nutrition/Water	Somali Region: Fik, Hamero, Segeg, Dichun in Fik Zone; Amhara Region: South Wollo Region	• Therapeutic and supplementary feeding programs for severely and moderately malnourished children • Respond to immediate water needs for domestic and hygiene uses by providing 10 lts. /person/day	42,074 2,570	2/00 – 3/01	$1.357,712
SCF/US	Nutrition/Water	Somali Region: Gode, Denan, Todob, Dharaaye in Gode Zone	• Therapeutic & Supplementary Feeding Programs • Water tankering, water well maintenance and rehabilitation	233,333	2/00 – 1/01	$1,312,441
UNDP	Coordination	Ethiopia	• Support to the Emergencies Unit for Ethiopia for reporting/coordination	N/A		$150,000
	Logistics	Somalia	• Build capacity of Berbera Port to provide safe and efficient operation for humanitarian and commercial activities.	N/A		$308,000
UNICEF	Health/Nutrition	Bale and Borena Zones, Oromiya Region	• Vaccination of all children 6 – 59 months of age against measles, simultaneous provision of vitamin A supplements.	505,076	10 weeks	$504,000

Vendor	Sector	Geographic Coverage	Program Activities	Number of Beneficiaries	Grant Duration	Grant Amount
	Nutrition	Gode Zone, Somali Region	• Emergency airlift of biscuits (BP5) and therapeutic milk (F75)	N/A		$205,291
USAID/Ethiopia	Logistics	Ethiopia	• Emergency airlift	N/A		$47,600
WFP	Logistics Support	Ethiopia	• Support for air transportation for UN agencies, NGOs, diplomatic missions, bilateral agencies, international/national counterparts • Support for logistics coordination cell	N/A		$500,000 $300,000
	Logistics Support	Djibouti	• Infrastructure and Equipment & Staff Support to Port Djibouti to improve operational efficiency; provide additional storage facility; and truck weighbridge. • Road Rehabilitation	N/A	3/00 – 9/00	$600,000 $1,750,000
World Vision	Agriculture	Amhara Region: Gera-Keya in North Showa Zone; Tenta in South Wollo Zone	• Purchase and distribution of 486.42 mt. of seeds • Purchase distribution of 2,500 hand tools • Collaboration with community to ensure distribution equity	25,000 HHs	5/00 –8/00	$330,447
Personnel/Admin			• Program Support			$753,388
Total OFDA Assistance						**$14,790,404**

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Southern Africa Floods

Nature of Emergency	• **Flooding & Cyclones**
Number of People Affected	• **Over 4 million Affected** •
Number of People Requiring Assistance	• **2 Million People**
Number of People Killed and/or Injured	• **An estimated 1000 People Killed**
Extent of Damage on Infrastructure	• **Mozambique: damage to schools was $20.8 million** • **South Africa; damage to infrastructure was $39.4 million** • **Madagascar: 65% of houses were destroyed and 75% of health facilities were damaged**
Amount of USG Assistance	• **OFDA: approximately $12.6million** • **Other USG assistance; $29.3 million**

Overview and Nature of Crisis

Torrential rains, tropical depression Gloria, and cyclones Connie, Leon-Eline, and Hudah between February 2nd and April 10th, 2000, caused disastrous flooding in Mozambique, Botswana, South Africa, Zimbabwe, and Madagascar. The floods caused extensive displacement of people, destroyed houses and other infrastructure such as roads, bridges, health centers and schools, and resulted in the loss of 141,400 hectares of crops in Mozambique and 90 percent of the cash and food crops in Madagascar. Experts indicated that this was the worst flooding in the region in several decades.

Higher than average seasonal rainfall, combined with reservoir water releases in South Africa, Zimbabwe, and Zambia in late February exacerbated the problem. The region also experienced continued heavy rains following the passage of Tropical Storm Gloria in early March. In early April, Cyclone Hudah struck Madagascar and Mozambique. The floods affected an estimated four million people in the region, and more than 1,000 people were reported dead.

Mozambique suffered the heaviest damage and loss of life. Hundreds of thousands of people fled their homes and villages in an attempt to escape rapidly rising floodwaters. Many of them were left clinging to rooftops or treetops, or were stranded on isolated patches of dry land, awaiting rescue. According to the Government of Mozambique (GRM), at least 640 Mozambicans perished, more than two million people suffered

severe economic losses, and, of that total, more than one million required food aid or medical assistance.

According to the GRM, 457,578 people were living in 117 accommodation centers and 16 isolated settlements, and 134,250 families lost approximately 141,400 hectares of crops. In addition to tremendous losses in housing and personal property, damage to roads, other infrastructure and agriculture was widespread. Damage to schools alone was estimated at $20.8 million.

Vast areas of the country were inundated. Those most severely affected include Maputo City and Maputo Province, as well as the provinces of Gaza, Inhambane, Sofala, and Manica. According to the Government of Mozambique, precipitation from January through March in Maputo, Inhambane, Gaza, and Xai Xai provinces were two to six times normal levels.

Madagascar was the second hardest hit country in the region. An estimated 90% of cash and food crops and 65% of houses were destroyed; 75% of health facilities were damaged. Approximately 210 people died and 278,000 people were affected. Heavy rains and winds from Cyclones Leon-Eline and Hudah battered five eastern districts, two western districts, and all of Antananarivo province. The Government of Madagascar National Disaster Unit reported that the districts on Madagascar's eastern coast, between Vatomandry and Mahanoro, suffered the most severe damage.

In Botswana heavy rains inundated the northeast, central, east, and southern districts, where over two-thirds of Botswana's population is concentrated. The Government of Botswana (GOB) National Disaster Management Office reported that 94,000 people were affected. The GOB also reported that 15,730 homes were damaged or destroyed following the rains and flooding associated with Cyclone Leon-Eline and Tropical Storm Gloria. In addition, thousands of hectares of cropland were submerged under mud and silt.

In South Africa, floods affected the Northern, Mpumalanga, Eastern Cape, and KwaZulu-Natal provinces, damaging houses, farms, dams, electrical facilities, water, telephone, and sewage lines. Mpumalanga and Northern provinces were the most severely affected where more than 340 schools were either damaged or destroyed. In addition, an estimated 100 people died as a result of the flooding, and thousands were left homeless. Infrastructure damage was estimated at $39.4 million.

Rains and flooding associated with Cyclone Leon-Eline and Tropical Storm Gloria caused damage in the districts of Chiredzi (Masvingo province), Plumtree (Matebeleland South province), and Chipinge and Chimanimani (Manicaland province) in eastern and southern *Zimbabwe*. Along the Save River Valley in eastern Zimbabwe, crops were swept away or completely submerged under mud and sand. The roads into Chipinge district were also severely damaged or obstructed by debris. The U.N. and the Government of Zimbabwe reported that 100 people died and

116,000 people were affected. Of those affected, 20,000 were forced to move to accommodation centers.

Along with other donors, OFDA provided $12.6 million for rescue operations, emergency medical, health, nutrition, water and sanitation, shelter, food and emergency agriculture, and other programs to alleviate human suffering and minimize morbidity and mortality among affected populations. OFDA's support was implemented through non-governmental organizations (NGOs), UN agencies, other USG entities and Fairfax County and Miami-Dade SAR. The breakdown of OFDA's assistance by sector is summarized in Table 1 below.

Table 1: OFDA's Assistance by Sector

Sector	Number of Grants	Number of Vulnerable People Targeted	Number of Beneficiaries Actual	Amount of Funding by Sector*
Emergency Medical/Health/Nutrition	5	315,000**	315,000	$480,417
Water/Sanitation	3	91,000**	91,000	$780,407
Shelter	1	175,000	175,000	$156,478
Emergency Food/Agriculture***	4	600,000	617,000	$8,813,000
Other General	7	766,580	700,000	$4,884,739
Total	20			$15,115,041

* Includes only partner program costs, not stockpile replacement costs
** In Mozambique
*** Emergency seeds and tools

Findings

Mozambique
Following a disaster declaration in Mozambique on February 7, 2000, OFDA deployed a two-person assessment team to Maputo. In response to a worsening situation, OFDA dispatched a DART to Maputo on March 1 to assess humanitarian needs and coordinate assistance with aid agencies and other donors. The initial 34-member DART included health specialists from the Centers for Disease Control as well as water/sanitation experts. A 16-member Miami-Dade Emergency Search and Rescue (SAR) team and a five-member U.S. Coast Guard water search and rescue team also was part of the DART. A second 12-member Miami-Dade SAR joined the DART on April 10, 2000, in anticipation of Cyclone Hudah's landfall. OFDA provided a total of nearly $2.2 million to support the two Miami-Dade SAR operations, U.S. Coast Guard operations, and the administrative and personnel costs of the DART.

In addition, OFDA shipped 489,600 sq. ft. of plastic sheeting, 6,000 water containers, and 6,000 woolen blankets from its stockpile via DOD aircraft, at a cost of $85,100.

OFDA also granted almost $400,000 to WFP to purchase and deliver sandbags, shovels, wheelbarrows, and cooking sets to flood victims. By providing grants to AirServ and WFP, OFDA contributed a total of $4.5 million for air operations, including the charter of 13 aircrafts used in rescue and relief activities.

In addition to providing shelter material and survival kits, OFDA funded grants to implementing partners to provide assistance to the affected population. In order to improve food security, OFDA granted $1.0 million to WFP for local and regional procurement of emergency food for a one-month food distribution. OFDA also provided $813,000 in grants to World Relief and to CARE to finance seed and tool programs in Gaza and Inhambane Provinces. These programs benefited a total of 33,640 families.

OFDA also provided grants to World Vision/US and Action Contra le Faim totaling $550,520 to support programs which provided seeds, tools and emergency water and sanitation services to flood victims in Sofala Province. A grant to Save the Children Federation/US for $132,000 was used to provide emergency health and agriculture activities in Gaza Province to approximately 55,000 beneficiaries. OFDA purchased and shipped WHO emergency health kits, valued at $51,502, to Mozambique for use by SCF/US, SCF/UK, and World Relief to help the GRM Ministry of Health replenish its stocks of drugs and medical supplies. Also, OFDA supplied $6,000 worth of anti-malarial drugs to the GRM's Ministry of Health. Grants were also provided to Samaritan's Purse and Terre des Hommes to repair and restock targeted health care facilities in Gaza and Sofala Provinces.

In addition to the emergency assistance provided by OFDA, Mozambique also received substantial relief and emergency assistance from other USAID offices and the Departments of the United States Government (USG). Food For Peace contributed 8,030 MT of P.L. 480 Title II emergency food commodities, valued at $5.7 million (including transport), to WFP's emergency operations in Mozambique. USAID/Maputo provided grants totaling $1.8 million for the emergency repair of infrastructures (such as rail lines and electrical systems).

The U.S. Department of Defense (DOD) deployed a Humanitarian Assistance Survey Team (HAST) to Mozambique and South Africa on February 17, 2000. On March 5, 2000, the U.S. European Command (EUCOM) deployed a Joint Task Force (JTF) to the region. Using military helicopters, boats, and C-130 aircraft, DOD personnel performed search and rescue operations, conducted aerial assessments, and distributed emergency supplies. DOD-chartered flights also delivered an estimated 40 MT of WFP high-energy biscuits from Pisa, Italy, for distribution to flood victims in Mozambique. The JTF worked to achieve optimum cooperation between the numerous military and civilian aviation assets by setting up an Air Operations Center (AOC). The JTF delivered more than 1,000 tons of foodstuffs, household utensils, and medicines to the districts of Buzi, Machanga, and Chibabana. The total value of DOD's support was $21 million including the cost of relief commodities and transportation.

Madagascar
Following a March 9 disaster declaration, OFDA provided $25,000 to Catholic Relief Services for the provision of potable water and to clear and rehabilitate important roads. The OFDA Regional Advisor arrived in Madagascar on March 10 to coordinate and conduct damage and needs assessments with USAID/Antananarivo. A water/sanitation specialist and FFP officer arrived on March 17 to provide assistance to the assessments. OFDA provided $400,000 to WFP to support the operations of two helicopters to conduct reconnaissance missions and deliver food and non-food items to affected populations. OFDA also provided $421,000 to CRS to implement emergency health and water projects, including the distribution of seeds and 500,000 packets of oral rehydration salts to 15,000 families.

OFDA also procured and transported 1,200,000 sq. ft. of plastic sheeting, 10,000 five-gallon water containers, and four Zodiac boats to Madagascar, at a total cost of $327,573. The relief commodities and the Zodiac boats were consigned to CARE. CARE distributed the relief commodities in Antalaha and used the boats to deliver relief commodities to isolated populations. In addition, FFP contributed 1,160 MT of P.L. 480 Title II emergency food commodities, valued at $793,300 (inclusive of transport costs), to WFP's emergency operations in Madagascar.

Botswana
On March 12, OFDA deployed a Field Officer to assist with flood assessments and response efforts. A water/sanitation specialist joined the Field Officer on March 14. From March 13-17, the two OFDA team members conducted assessments in eastern Botswana. OFDA procured and transported 72,000 sq. ft. of plastic sheeting and six water test kits in response to the floods. Both the plastic sheeting and water test kits were consigned to USAID/Gaborone for use in flood-affected areas.

South Africa
In response to the Ambassador's disaster declaration in South Africa, OFDA provided $25,000 through USAID/Pretoria to the South African Red Cross for the local purchase and distribution of blankets, food, and other relief supplies to 3,000 displaced persons in Northern and Mpumalanga Provinces.

Zimbabwe
In Zimbabwe, OFDA responded by providing $25,000 through USAID/Harare to the Zimbabwean Red Cross to support relief activities. In addition, OFDA provided $144,780 to CRS to distribute non-food emergency relief supplies, including cooking utensils, blankets, and water containers, to 15,000 people in the worst affected areas of Zimbabwe.

Observations

Overall, implementing partners' programs were effective in reducing and averting morbidity and mortality. Food security of affected populations was strengthened and health conditions were improved.

On a less positive note, the search and rescue operation was not cost-effective because of a delay in the arrival of the US SAR teams. On the other hand, had Cyclone Hudah hit the coast of Mozambique as was projected, the Miami-Dade team was poised to respond. In addition, the rigid-hulled Zodiac boats and the training of local PVO staff in their use proved effective in the 2001 flood response.

Overall, the emergency event and the southern African countries' response to it revealed significant weakness in host-country disaster preparedness, response and management capabilities. An example is that the traditional coping mechanisms were not in sync with preparedness. Warnings about rising floodwaters lacked sufficient credibility to motivate people to take immediate action. In all cases, except South Africa, lack of funding at national, regional, and local levels will continue to severely constrain capacities of local authorities to respond to such emergencies.

In addition, while many local NGO staff and villagers in Mozambique believe they are better prepared to respond to a major disaster in the future, some NGOs in Madagascar contend that tensions associated with control and management of the 2000 response have harmed the country's ability to respond. During the response phase, particularly in Mozambique, some NGOs encountered numerous red tape and bureaucratic delays by government officials trying to maintain some order and control over the response. As a result, many implementing partners suggest that there be protocols in place, which would allow for rapid processing of staff and materials during disaster responses.

No single organization in the government of Mozambique, donor, NGO or private sector had sufficient capacity to orchestrate disaster responses and coordinate relief activities. The INGC, the GRM's disaster management agency, had been reorganized and downsized, and was not prepared to deal with the magnitude of the flood disaster. The Disaster Response Steering Committee, CRIC, was a useful coordinating tool, but procedures and authorities that had been agreed to were not in place. In addition, due to a lack of sufficient data, flooding models, and mapping systems, it was difficult to predict the likely impact of the flood on south and central Mozambique.

Accusations by the press of "too little, too late" applied largely to the UN during this crisis, whose coordinating staff left prematurely after the first wave of flooding. From all field accounts, OFDA and its partners provided appropriate assistance in a very timely manner in a highly demanding setting.

A major stumbling block to reaching people stranded by floodwaters was the near absence of accurate maps and floodwater modeling information. In addition, many

communities, accustomed to annual flooding, reacted slowly or not at all to warnings of an imminent influx of large amounts of water (from dam releases for example). This caused a greater number of people to be hurt, killed, or stranded. In addition, a critical shortage of fuel in Mozambique delayed many relief and rescue operations.

The degree and level of volunteerism displayed by citizens wishing to help in rescue efforts and delivery of relief goods was remarkable. Of special note in this regard were boating clubs in Zimbabwe and South Africa and the Malawian military. Tragically, dozens of unsung heroes at the local level lost their lives in attempts to help their own families, and other stricken families.

The presence of many NGOs that lacked knowledge of local culture and conditions sometimes disrupted the efforts of better-informed partners. Particularly problematic was a tendency of non-resident organizations to forego close collaboration with government representatives, contributing unnecessarily to an already tense atmosphere.

In addition, many NGO staff was not prepared to provide disaster response and management. Consequently, they had to be trained “on-the-spot” in disaster response. While this made the initial weeks of the crisis very hectic and strained, the final outcome was a well-trained cadre of personnel in the affected countries who are now better prepared to respond to future disasters.

Kinshasa: Case Studies In Disaster Reduction

Background
In May 1998, OFDA approved the Ambassador's Disaster Assistance Declaration requesting $25,000 to assist in emergency clean-up activities in two communes of Kinshasa, the Democratic Republic of the Congo (DROC). Torrential rains had inundated homes and businesses with an estimated 3,000 cubic meters of sand and mudslides, causing widespread damage and dislocation to some 10,000 commune residents. An additional 90,000 commune residents were indirectly affected by the flooding and sand/mud inundation. Catholic Relief Services (CRS) received emergency funding to undertake clean-up activities.

Focusing on Causality, and Not Just the Symptoms
While reviewing the declaration request with the Africa regional team, questions were raised regarding the proximity of communes to adjacent watersheds, and the vulnerability of residents to future flooding. A proposal was submitted to reduce floodwater runoff from the adjacent watershed was issued by OFDA as a response to questions raised about future flooding vulnerabilities. OFDA approved the CRS request for approximately $131,000 in late May 1998 focused on disaster reduction measures. The flood/erosion reduction project was initiated in June 1998.

During the six–month period ending 15 March 1999, 17 small dams were constructed in the watershed adjacent to the communes. These dams were made from bamboo cuttings, grass, and sandbags. Three water retention basins were strengthened, drainage canals were cleaned, and portions of the watershed were seeded with grass. Local residents were organized to perform the work and maintain improvements.

These disaster reduction measures were tested severely during the 1999 rainy season. Kinshasa experienced torrential rains again in February 1999, and although two of the 17 dams failed, no flood-related damage occurred in the two communes, no residents were injured or displaced, and no livelihoods were affected.

The Benefits and Costs of Disaster Reduction
Assuming conservative projections, and counting only direct economic losses, one dollar of OFDA's "investment" in disaster reduction in 1998 resulted in a "savings" of *at least* $45.58 during the 1999 rainy season. More importantly, the floods in 1999, 100,000 vulnerable persons did not incur direct economic loss estimated at $7.1 million, or $71.06 per person because of the OFDA's "investment" of $1.56 per beneficiary in 1998. *On a per-family basis, OFDA-supported disaster reduction measures resulted in a "savings" of $426, or the equivalent of nearly 54 percent of the average annual income*.

There was also another beneficiary, namely OFDA. The 1998 investment in disaster reduction eliminated the need for OFDA to provide assistance in 1999, thereby saving time, effort, and money that could be applied to natural and complex disasters elsewhere.

Postscript, 21 February 2001
Torrential rains in late 1999 caused similar damage to the housing, possessions, and livelihoods of 50,000 residents in ***another*** commune of Kinshasa. Adopting measures used in the earlier activity, CRS received a $45,000 grant from OFDA to support similar mitigation activities, beginning in early 2000. There was no flooding in the commune this past rainy season, proving again that small investments in disaster reduction can result in large benefits to vulnerable populations.

ANNEX 2: Proposed Revision of OFDA's Strategic Framework

OFDA's Strategic Plan was approved in November 1996. Achievement of strategic objectives and intermediate results outlined in that plan formed the basis for the management contract between USAID/BHR/OFDA and USAID/BHR. Through the first four years of experience with the framework, OFDA implemented changes to its strategic approach to response and mitigation, many times weaving mitigative interventions into disaster responses. In October 2000, OFDA's former Disaster Response Division (DRD), and Prevention, Mitigation, Preparedness and Planning Division (PMPP) merged to form the Disaster Response and Mitigation Division. This was an organizational affirmation of OFDA's interest and success in mitigating against future disasters while responding to current ones. To reflect the evolved program approach and the reorganization, OFDA proposes incorporating its original Strategic Objective No. 2 under SO1. This revision to the strategic framework is explained below.

A. The Revised Framework

The revised framework combines programmatic, impact-oriented results, and institutional, capacity-building outcomes. The programmatic results relate to OFDA's mandate of saving lives, reducing human suffering and reducing vulnerability of crisis-affected populations in the wake of disasters. They clearly delineate what outcomes implementing partners should achieve with regard to the emergency needs of disaster-affected, vulnerable groups. The institutional capacities and capabilities IRs identify the policies, process and human resources required by USAID, implementing partners, and host-country entities to achieve emergency assistance results, and to reduce risks and human suffering from recurring natural and human-caused disasters and complex emergencies.

As indicated earlier, relief is delivered more effectively in at-risk countries with even nominally efficient PMPP capacities. In countries with a higher level of PMPP capacity, relief requirements are likely to be smaller and more targeted. In complex emergency situations, PMPP-type interventions can protect the livelihoods of disaster victims while reducing the cost of emergency relief.

Strategic Objective No.1 (SO1), *"Critical needs met of targeted vulnerable groups in emergency situations "* directly reflects OFDA's mandate of saving lives and reducing the suffering of people affected by natural, human-caused and complex emergencies. Implementing partners' activities contribute largely to the achievement of this objective. In most cases, OFDA's emergency assistance includes communication equipment, search and rescue, emergency health and nutrition, water, sanitation, and shelter. In some emergencies OFDA provides food, agriculture and livestock support to affected populations.

In its Strategic Plan, OFDA identifies four Intermediate Results toward the achievement of SO1. IR1.1, "*Improved targeting of emergency assistance to the most*

vulnerable groups" reflects OFDA's emergency response priorities. Emergency assistance is first directed to the most vulnerable groups, which include severely and moderately malnourished children and adults, nursing and pregnant women, child-headed and women-headed households, the elderly with no social support systems, and physically handicapped individuals.

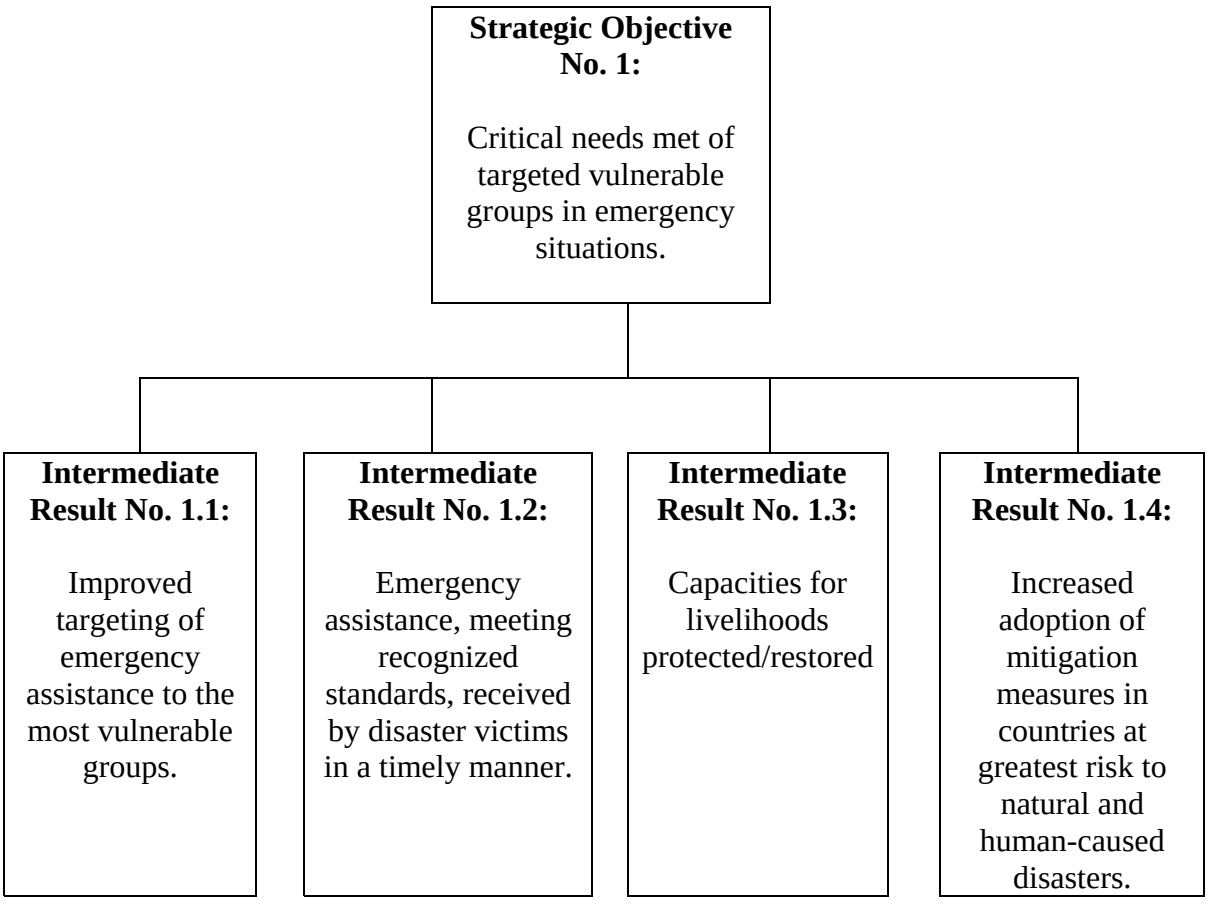
IR1.2, *"Emergency assistance, meeting recognized standards, delivered within an acceptable timeframe"* reflects OFDA's requirement that emergency assistance be delivered and distributed to targeted beneficiaries quickly to avert further human suffering and death. In the revised framework, IR1.2 is rephrased to read, *"Emergency assistance, meeting recognized standards, received by disaster victims in a timely manner."* This addresses the quality and appropriateness of emergency assistance in terms of its impact. This intermediate result underscores the fact that, when emergency assistance does not reach disaster victims quickly, increased loss of life and severe human suffering can result. The phrase, "acceptable timeframe" takes into account delays that can occur between the time a disaster strikes and the time that OFDA is permitted to intervene, including a delayed disaster declaration, inaccessible affected populations, or complications with roads and transportation.

IR1.3, *"Capacities for livelihoods protected/restored"* addresses the issue of reducing human suffering by providing emergency assistance according to local capacities and traditional coping mechanisms. For example, the distribution of food, seeds and tools after an emergency builds and maintains local agricultural production capacity, enhances the food security of disaster victims, and reduces disaster victims' dependence on emergency food assistance. IR1.3 is unchanged from OFDA's original strategic framework.

IR1.4, "*Increased adoption of mitigation measures in countries at greatest risk to natural and human-caused disasters*" replaces the old IR1.4 *"Disaster response capabilities of NGOs and host government entities strengthened"*. The new IR1.4 was SO2 in OFDA's original Framework, and relates to the institutional capacities of implementing partners and host country entities. The new IR 1.4 more completely captures the effects of improved institutional capacities of relevant humanitarian assistance actors toward meeting the emergency needs of disaster-affected vulnerable groups. Augmented host-country capacity, combined with improved capabilities of implementing partners and OFDA, ensures timely, efficient, and appropriate emergency responses. OFDA has several initiatives underway designed to strengthen the institutional capacity of implementing partners, host-country entities, as well as the staff capabilities of USAID and its cooperating units.

Figure 1 provides a graphic representation of the revised Framework. The revisions represent a realignment of the original Framework and do not introduce fundamental changes.

Figure 1. Revised Results Framework



B. Performance Indicators

By realigning and fine-tuning the wording of some IRs, OFDA made minor changes to associated performance indicators. Progress toward SO1 is assessed using the following performance indicator.

> **Performance Indicator No.1.1:** Percent of disaster response grants that report meeting emergency needs of 100 % of their target population.

The indicator ties in to BHR's goal of saving the greatest number of lives, alleviating suffering for the greatest number of people and reducing economic and social impacts of disasters for the greatest number of people, within the constraint of limited humanitarian assistance resources. Mortality and morbidity rates, for example, should decrease as a result of emergency needs of disaster victims being met in a timely manner.

In principle, OFDA provides funding for 100 percent of targeted populations as represented by grantees. Thus the performance target for the indicator is 100 percent.

Achievement of Intermediate Result No. 1.1 is measured using the following indicators.

> **Performance Indicator No. 1.1.1:** Percent of disaster response grants that continually assess the needs of the disaster affected population and recalibrate the numbers of beneficiaries.
>
> **Performance Indicator No. 1.1.2:** Percent of grants that continually monitor and adjust grant activities to ensure that the critical needs of targeted population are met.

Indicator 1.1.1 tracks increases or decreases in the number of people targeted for assistance. Indicator 1.1.2 tracks whether grant activities are adjusted to suit the changing number of beneficiaries. Together, these performance indicators ensure that implementing partners, (1) assess the emergency condition and emergency needs of disaster victims and adjust the intervention to match the assessed needs, (2) continually monitor disaster situations as they evolve and adjust the number of beneficiaries, and (3) ensure that emergency assistance is delivered according to reassessed needs and coping mechanisms of disaster victims.

Achievement of Intermediate Result No. 1.2 is evaluated using the following two performance indicators.

> **Performance Indicator No. 1.2.1:** Percent of grants reporting delays in distributing emergency commodities and providing emergency services to targeted vulnerable groups.
>
> **Performance Indicator No. 1.2.2:** Percent of grants that have provided emergency assistance in accordance with internationally recognized standards (e.g., OFDA or Sphere standards).

Performance of IR1.3 is assessed using the following performance indicator.

> **Performance Indicator No. 1.3.1:** Percent of grants that have incorporated appropriate prevention and preparedness activities.

Performance of IR1.4 is evaluated using the following performance indicators.

> **Performance Indicator No. 1.4.1:** Percent of targeted at-risk countries with enhanced capacity to plan, respond to, manage and mitigate natural and human-caused disasters.
>
> **Performance Indicator No. 1.4.2:** Percent of grants that incorporate preventive measures to reduce the impact of recurring, natural and human-caused emergencies.

ANNEX 3: Success Stories

Livestock Vaccination Program in Kosovo Safeguards both Humans and Livestock from Common Animal Diseases

The loss of livestock resulting from the humanitarian crisis in Kosovo have been staggering. Based on the Food and Agriculture Organization Investment Center and World Bank animal rehabilitation assessment, Kosovar veterinarians estimated the losses of livestock to be 60 % of cattle, 75% of sheep and goats, and 80% of pigs. OFDA, through the Food and Agriculture Organization (FAO), supported a province-wise livestock vaccination program to safeguard the remaining livestock for livelihoods. The program facilitated the resumption of agricultural production of animal products and the replenishment of the livestock.

Vaccination was conducted to prevent against the most prevalent clostridia diseases, vaccinating 200,000 heads of cattle and 150,000 sheep and goats, while targeting municipalities most affected by the diseases. The most apparent result from this program was the short-term immunity to anthrax and clostridia (cattle, sheep and goats), swine fever and erysipelas (pigs), and rabies (dogs).

Animal health care is closely linked to human well-being. Livestock diseases can be transmitted to humans causing further deterioration and stress on the social and health system, which is still precarious in Kosovo. Despite the increasing incidence of the disease, there is no formal disease control program for brucella that causes diseases in both humans and animals. OFDA provided for technical support in animal management, provincial vaccination and veterinary control mechanisms against the spread of diseases. Also supported was field research to improve the understanding of diseases in cattle, sheep and goats advancing both human and animal disease control programs in the region.

OFDA-Supported Shelter Program Met Emergency Housing Needs of Kosovars

In the winter of 2000/2001, OFDA's programs provided assistance to municipalities, which USAID, in conjunction with UNHCR, UNMIK, NGOs and local communities, determined had the greatest need. Many houses in Kosovo were damaged during the fighting and were categorized according to the amount of damage they sustained. A category 5 damaged house would have 2 walls standing.

OFDA funding enabled the repair of the other 2 walls, put up a corrugated tin roof, provided windows, doors, carpeting, electrical hook-ups, and insulation, succeeding in creating one warm, dry room in an otherwise damaged or unfinished house. This option was implemented based on last winter's experience, where many families chose to remain on their property in tents, to guard their belongings and livestock, instead of moving into community shelters far from their villages. Implementing partners rehabilitated 1,800 shelters. Manual labor was provided to rehabilitate shelters for 460 families with a total of 1,850 families benefiting from the shelter rehabilitation.

Lake Monoun and Lake Nyos Degassing Expected to Reduce Risk

Two volcanic crater lakes in west Cameroon, Monoun and Nyos are prone to sudden lethal releases of carbon dioxide (CO2) gases. In 1984 and 1986, emissions of toxic gas killed 1,800 people almost instantaneously. To address the cause and mystery surrounding this event, and prevent the relocation of thousands of people, an international consortium of scientists conducted long-term studies. In 1999, OFDA funded a proposal from the University of Michigan to implement a degassing program, establish monitoring systems, conduct technical counterpart training, and promote hazard education to the people living near those lakes. The work was conducted under the direction of the Cameroon Ministry of Science and Technology (MST), and the first phase of the project was completed, including the installation of lake and weather monitoring system for each lake.

The second phase of the project involved the installation of degassing pipes in both Lakes Nyos and Monoun. An integral part of the project is the agreement from the Cameroonian Inter-Ministerial Committee to make road improvements to both lakes, enabling access to the work sites and facilitating the potential evacuation of people near the lakes. The Committee will also construct storage and observatory facilities at the lakes, including a science center. Support and training of Cameroonian scientists and public education for the local populations concerning the risks of living near those lakes, are two other major components of this project. Local scientists will maintain and monitor the equipment, facilitating an information transfer and enabling long-term sustainability to this project, when it is turned over to the Cameroon government.

Incorporation of Seismic Mitigation in Emergency Shelter Activities Expected to Reduce Vulnerability and Risk in Tajikistan

OFDA approved an emergency shelter grant to reconstruct 170 homes destroyed after the November 14, 2000 earthquake. OFDA worked closely with the grantee, Shelter Now International, and the regional USAID mission, to revise the original shelter design to incorporate a significantly greater degree of seismic resistance, while still using locally-available materials; increase the size of reconstructed homes by almost thirty percent to conform with Sphere Project humanitarian guidelines; and incorporate a village-based, non-structural seismic preparedness training program to complement the structural revisions.

As part of the revision process, OFDA worked with engineers at the USGS and USAID's Global Bureau Urban Programs Division. Perhaps equally important, the incorporation of seismic mitigation measures did not delay grant processing. The project resulted in 18 percent construction costs per square meter ***reduction***, and in an overall project costs increase of less than four percent. OFDA views the shelter project as an example of incorporating disaster mitigation into an emergency response.

Therapeutic Feeding Saved Baby Abiti's Life

Abiti Arija was one of the over 800 children who passed through the OFDA funded Concern therapeutic feeding centre in Weylita, southern Ethiopia in May 2000. His grandmother Bulule Nana and her youngest daughter, Amanech, who is only 12 years old, accompanied the two-year-old boy. Abiti was treated for severe malnourishment at the Bedessa based feeding centre, where staff feared for his life. Abiti's grandmother explained what had happened.

"The baby was left in my care in March. My son, who is the father of the child, is a day-labourer in Shashamene, the big city 4 hours away. Abiti was already very thin, I don't think the mother looked after him very well. My son and the mother are not married. She abandoned him completely. My son then brought Abiti here and asked us to look after him. My son gives us no money to pay for Abiti's food; we could see he needed extra care when he arrived. But my husband is a farmer and we have only half a hectare of land. When Abiti came to us, I was struggling to feed the seven children that still live at home. The past few years the harvests have been very bad. The maize we grow on our land is not enough to feed us all. And we have no cash coming in; nobody has a job outside working on our small farm. So Abiti kept getting thinner because we had no milk and in the end we took him to Concern."

Ten months later, visitors to the Ade Dawe Mundaga Kebele found the house of grandmother Bulule Nana. They instantly recognized Amanech, the girl who so devotedly cared for her little nephew. When they asked about little Abiti they were afraid of a negative response, but luckily all was well. The visitors couldn't believe that they were looking at Abiti, sitting contentedly on his granny's lap. He had grown into a big and healthy baby boy.

"Oh yes, he still lives with us, Bulule said. We haven't heard from my son. We heard a rumour that his mother moved to Addis Ababa. But Abiti is part of our family now." The grandparents were delighted that the little boy survived, "he was very very skinny 10 months ago and we didn't think he would make it", they explained.

Amanech still spends a lot of time with Abiti. They often play together in the morning, before she heads off to school. Abiti is just able to stand up right at the moment and he practises at walking. His development came to a standstill during his period of malnutrition, but he seems to be making great progress now, he is alert, playful and very curious.

"Everything is going much better again", says Abiti's grandfather, Tanto Ngo. "We have maize in our store and my wife and daughter are working from the house spinning cotton, so we have a little income. We are saving the maize for later and we buy food from the market at the moment. We are so happy that Abiti is doing better. We thank God that he survived. Now we can look after him again, Concern helped us through the most difficult time last year. If Abiti gets sick, we can take him to the clinic and we will feed him all we have, to make sure that he stays healthy.

OFDA-Supported Agricultural Research Increased Food Production and Strengthened Food Security in Africa and Central America

Sierra Leone Commends IITA's Work in Helping War Ravaged Farmers
The International Institute of Tropical Agriculture (IITA) has made a significant contribution to rehabilitating Sierra Leone's war-struck farmers and has strengthened the Institute of Agricultural Research (IAR) through the OFDA-funded Community-Based Promotion of Food Security Crops in Selected African Countries. Due to the decade-long civil war, farmers have frequently been forced to abandon their fields, seeds and planting materials. The project has provided farmers and IAR improved planting materials of cassava and yams; improved seeds of maize, cowpea and soybean; and basic farm tools including hoes, machetes, wheelbarrows, and shovels.

The project has also facilitated the promotion of improved management practices at "field days". IITA airlifted thousands of sweet potato, yam and cassava planting materials of over 30 varieties for several IAR organized distribution field days. During one field day in 1999, the Acting Director of IAR, Dr. Jalloh, reminded the audience about the vital role of cassava in alleviating famine, especially as other crops failed, and cited the rebel war in Sierra Leone which catapulted cassava into what he called a "respectable position" to influence the feeding habits of many Sierra Leoneans.

"Cassava," he went on saying, "is a life saving crop for people trapped behind rebels lines, while sweet potato is an emergency crop for reactivating farmers because of its shorter duration maturity." Project spin offs include distribution of 18,000 improved sweet potato cuttings to ten secondary and primary schools for crop production to help address poverty alleviation through agriculture. IAR donated eleven elite varieties of sweet potato vine to the National Association of Farmers of Sierra Leone and the Ministry of Agriculture, Forestry and the Environment (MAFE) for distribution to farmers. MAFE Director General, Mr. Feika, noted that farmers survived mainly on the crop at the height of the war and have already associated the crop with fitting names to reflect that "trying moment."

The Emergency Program to Combat Cassava Mosaic Disease Pandemic
In sub-Saharan Africa, more than 200 million people depend on cassava as their main staple food. Since the 1980s, a virulent strain of the Cassava Mosaic Disease (CMD) has devastated cassava production in East Africa, covering more than 750,000 kilometers. The effects have been devastating, with farmers typically abandoning cassava production. Region-wide losses have been estimated at in excess of $100 million annually. Since October 1998, USAID, including OFDA, has supported efforts by the International Institute of Tropical Agriculture (IITA) and its national and NGO partners to implement an emergency program to tackle this pandemic. Strong progress has been made to monitor and forecast the pandemic's development, to multiply CMD resistant varieties and to conduct training in CMD management methods. Total USAID funding to date is approximately $6 million. The internal rate of return on this investment has been enormous, approximately 167% (May 2000 cable, Kampala

002498). Cassava production in USAID's target areas increased from less than 1,000 metric tons (mt) in 1997, to 342,000 mt in 1999 with an estimated market value of $40 million.

Seeds of Hope for Central America
In January 1999, the International Center for Tropical Agriculture (CIAT) launched the Seeds of Hope for Central America project to reestablish the food-production capabilities of Honduras and Nicaragua after Hurricane Mitch. Experts estimate that the storm destroyed up to 70 percent of the countries' basic food crops. The project aims to restore critical seed stocks that were lost in the hurricane and teach environmentally appropriate farming techniques that hold promise both for feeding the two countries over the long term and for reducing their vulnerability to natural disasters in the future. The project's first priority was to work with national programs and other organizations in the region to find undamaged supplies of seeds that are adapted to conditions in Honduras and Nicaragua.

CIAT used Geographic Information System (GIS) technology to maximize the relief effort's efficiency with detailed information on topography, rivers, drainage, soils, crops, roads, bridges, and more, combined with satellite images taken before and after the hurricane, to develop a new digital atlas of Honduras. The result is frequently updated maps that provide an extraordinarily detailed picture of the worst hit agricultural areas. The data have been guiding the efforts of local and international relief organizations and will help national partners to determine which areas are most suitable for replanting. To date, about 22,000 farmers and their families have benefited from the project's outputs, including the planting and harvesting of two bean crops.

NOAA's Climate Prediction Research in Africa is Helping to Reduce Farmers' Vulnerability to Seasonal and Yearly Climate Variations

The main OFDA funded activities implemented with NOAA in the African region for FY2000, focused on research in climate prediction and application of this research in climate sensitive sectors. In the African regional program, the following activities were undertaken:

Regional Climate Outlook Forums (COF)
These fora greatly promoted and improved the scientific and technical capacities of professionals and meteorological and hydrological service institutions to produce, assess, disseminate and apply seasonal climate forecast information to primary users and decision makers. This helped tremendously to mitigate the impacts of seasonal weather and climate variability in climate sensitive sectors, thus saving lives.

For example, in Southern Africa, a COF was organized in Gabarone, Botswana from September 18 to 22, 2000. The agreed on forecast was used by, among other sectors, the power utility industry to model river flow and its effects on power generation and the people down stream in the event of flooding in those areas.

In the Greater Horn of Africa (GHA), two COFs were organized. The first was held in September 2000, in Kisumu, Kenya. The capacity building component of this process trained sector managers and primary users in the use and management of water resources for saving lives in the event of droughts and floods. Other experts in the fields of food security, health and disaster management also participated in the workshop.

During February 7 - 11, 2000, the second COF was organized in Arusha, Tanzania. GHA has two rainfall seasons, and there is, a COF before the start of each one, to guide the users and policy makers for their planning and decision-making. The climate forecasts of these COFs were effectively used by the various climate sensitive sectors. The users changed their behavior regarding critical decision-making for mitigating impacts of extreme events associated with weather and climate variability.

In West Africa, PRESAO, which is the French version of COFs, was organized in Burkina-Faso in June 2000. Regional and international scientists met and exchanged many useful ideas in the application of climate forecasting in various socio-economic sectors of the sub-region. Primary users, intermediaries and middle level climate scientists were trained in the production, dissemination, communication and application of climate and weather information.

Pilot Application Projects

These projects focused on the development of new methodologies, or the enhancement of existing ones, to disseminate, communicate, assess and apply seasonal climate forecast information in climate sensitive sectors to save lives in East, West and Southern Africa. In East Africa, thirteen such projects were approved and are currently being implemented. Most last from 6-12 months. In southern African region, 9 pilot projects were approved, funded, and are in progress. In West Africa, two pilot projects were approved and funded and are underway.

Workshops and Training

National workshops to discuss the agreed on regional forecast and to disseminate the information were conducted in Senegal, Burkina Faso, Chad and Cote d'Ivoire. A media workshop was organized in Dar es Salaam on February 8 and 9, 2000. This workshop trained 30 journalists from Tanzania and other countries in the sub-region in basic hydrological and meteorological data collection and processing, the terminology of weather and climate forecasting, including the explanation of some climate and weather phenomena such as El Nino and La Nina. The goal of the workshop was to sensitize journalists and the media to weather reporting, by providing them basic technical knowledge on weather related events, which would minimize information distortions. Journalists were also encouraged to specialize in weather and climate forecasting reporting.

A Successful Partnership Between Implementing Partners, Local NGOs and Government Counterparts Provides Timely and Effective Response to Drought

By mid-2000 the North Red Sea Zone of Eritrea had experienced two years of unusually low rainfall. It was estimated at that time that the drought had seriously affected the food security of more than 300,000 people as a result of very poor crop production. Many of the families are agro-pastoralists the drought had also greatly affected the health and value of their livestock. During 1999 an estimated 60 percent of the fields that had been planted had produced no harvest, and fewer than 1 percent of the farmers had produced sufficient crops to meet their annual needs. Because of this severe shortage of food, many people became dependent on food aid. More than 60 percent of families had been forced to sell family assets, including livestock, in exchange for cash to purchase food.

The Emergency Drought Assistance project addressed this severe food shortage by enabling farmers to establish crops in four sub-zones of the North Red Sea Zone. Climatologists had predicted a good chance of sufficient rains in the zone to produce a good crop yield. The target areas were those that had been severely affected by the drought and that showed good potential for crop production in the 2000-2001 cropping season. The project is being implemented through a partnership between CARE, Vision Eritrea (a local NGO), and the Ministry of Agriculture.

Traditionally, farmers would have saved seed from the previous year for planting in the next year. However, because of the droughts few farmers had been able to save seeds as the immediate need for food was greater. Plowing farmland in many areas of the North Red Sea Zone is done by the Ministry of Agriculture. The farmer is required to pay approximately one third of the cost. Since farmers had very little cash, the project agreed to pay the farmer's portion of the plowing costs. Between October and December 2000 approximately 6,800 hectares of land were plowed and 136 tons of maize and pearl millet seed was purchased and distributed by this project. With the high level of rainfall, the expected production from fields targeted by this project are estimated to be in the range of 5,000 tons of maize and millet grain for approximately 4,200 beneficiary farm families. This will result in sufficient cereal grain to feed the target communities for the coming year, provide fodder for livestock, and produce an additional 800 tons of grain available for sale by farmers.

This project greatly contributed to increasing the food security of farming communities in the North Red Sea zone. Its success is due in large part to the hard work of the three implementing partners, and the local community leaders, in getting the fields plowed and purchase the seed, distribute and plant it, in the short amount of time available before the rains started. Success is also due to the foresight of the funding agency (OFDA) in recognizing the appropriateness of the intervention and approving the proposal in a timely manner.

Repair and Construction of Water Retention Infrastructure in Drought-Affected Areas Saved Rainwater From Going to Waste.

From 1999-2000, Rajasthan State suffered most severely from what some experts said to be the worst drought to affect western India in 100 years. The affected population

in Rajasthan exceeded 26 million persons and livestock loss exceeded 35 million heads of cattle, alone. Due to water, food, and fodder scarcity, there was considerable loss of agricultural livelihood while food prices rose significantly. Desperation and lack of fodder and water began to drive many herders to sell their cattle at cut-rate prices, and mass migrations of unskilled persons to urban areas began to occur. In response to this mounting disaster, OFDA provided approximately $1 million worth of drought relief activities in Rajasthan State, alone. This money enabled World Vision, CARE, and Catholic Relief Services (CRS) to establish cash-for-work and food-for-work programs to repair and reconstruct the water retention infrastructure for over 25,000 families in the most-affected villages in the Jaisalmer, Barmer, Jodhpur, and Pali districts of Rajasthan State.

The project increased the livelihood security of over 13,550 drought-affected families, expanded storage capacity within the existing water-harvesting system, improved the health status of livestock, and decreased rural-urban migration. The beneficiaries of this project counted 196 of the most-affected villages in Jaisalmer and Barmer districts, and were principally female-headed households and households, with children under age 5. Thus, the project eased the burden placed on women and girls who had to walk several miles for water. OFDA also enabled CARE to assist an estimated 12,000 families in Jodhpur and Pali districts by repairing the water retention infrastructure, thus improving household livelihood security while decreasing vulnerability to recurring water scarcity. In addition, the CRS grant enabled the building of household and community water-harvesting structures in 95 of Rajasthan's worst-affected districts, resulting in similar positive outcomes.

In East Timor the Purchase and Distribution of Seeds and Tools to Returnees Revived Subsistence Farming and Reduced Future Food Aid Dependence

Elements of the Indonesian security forces, and pro-integration East Timorese militias, were responsible for killing hundreds of East Timorese civilians and destroying or looting much of the province's public and private assets throughout the year including food stocks, but especially after the results (showing an overwhelming vote for independence) of the August 30, 1999 U.N.-sponsored consultation vote were announced. In addition, during the post-consultation rampage more than 450,000 East Timorese were displaced from their homes. This included approximately 200,000 internally displaced persons (IDPs) who fled to the surrounding hills and jungles of East Timor, and 250,000 IDPs who fled to West Timor and other areas of Indonesia. In early September 1999, the U.N. Secretary General declared that the ballot results were "an accurate reflection of the views of the East Timorese people," and in October 1999, the Government of Indonesia approved revocation of the 1978 Indonesian parliamentary decree that annexed East Timor. This action allowed the establishment of the U.N. Transitional Administration in East Timor, suppression of militia activity and paved the way for international assistance.

OFDA's post-consultation and reconstruction humanitarian assistance to East Timor was highlighted by several initiatives. In consultation with the U.N.-coordinated

multilateral effort, OFDA developed a three-phase strategy for responding to the crisis, including emergency airdrops of food consigned to the U.N. World Food Program (WFP, Phase I) and provision of essential non-food emergency relief materials (Phase II). Phase III of OFDA's response to the crisis primarily involved supporting key nongovernmental organizations (NGOs) and U.N. implementing partners to assist returning IDPs. This third phase included both continued relief measures as well as "recovery assistance" (e.g., agricultural inputs and essential household items). OFDA provided funding to Catholic Relief Services (CRS), World Vision, and CARE to purchase and distribute seeds and tools to returnees, enabling families to revive subsistence farming and avoid future dependence on food aid. These NGOs have longstanding history of involvement in East Timor and extensive local networks.

In December 2000 WFP crop and food supply assessment revealed that the international effort to provide seeds and tools to the returnees greatly contributed to averting major food shortages following the post-consultation crisis in East Timor. OFDA funded seeds and tools comprised about one-third of those provided by the international donor community. More than 125,000 returnees, including an estimated 25,000 children under age 5, benefited from OFDA's food assistance and livelihood recovery efforts. Further, in order to meet the immediate food needs of approximately 25,000 families in East Timor, OFDA funds enabled CRS to provide (a) 2 standard 1-month supplementary blended food (e.g., wheat soy blend or corn soy blend) rations to families with children under age 5 and pregnant and/or lactating women; (b) a 1-month, complete family ration to in-need families upon return; and (c) basic agricultural inputs (including seeds and tools packages) to approximately 25,000 families returning to East Timor. In addition, OFDA's World Vision (WV) grant improved the nutritional status of 25,000 vulnerable persons as WV distributed an emergency food rations to 5,000 families, including rice, oil, and protein, and improved the food security of 5,000 families prior to the October and May planting seasons by providing them with minimal agricultural inputs, including corn and vegetable seeds. CARE was able to address the food security needs of 62,500 IDPs and other vulnerable persons.

Retrofitting Makes Houses More Hurricane Resistant

On November 16, 1999, as most of the Caribbean was heaving a collective sigh of relief that the hurricane season had finally passed by with only hurricanes Floyd and Jose making landfall, hurricane Lenny surprised everyone by first forming in the Caribbean sea north-east of Honduras and then tracking uncharacteristically eastwards. Passing south of Jamaica before turning northeast and clipping Puerto Rico at a near category 5 hurricane with maximum winds of 150 mph, it then settled ominously over Antigua on November 18.

Five hundred miles to the southeast of the eye of the hurricane, St Lucia was battered, especially on the unprotected west coast where Soufrière was hit by 18ft waves. Fifteen feet of beach sand was deposited on the water-front road where the police

station had to be evacuated. The poorer communities in the fishing villages of Laborie and Choiseul were also badly affected with damaged housing and fishing boats. Situation reports from both the region's national emergency offices and the Office of U.S. Foreign Disaster Assistance noted that Dominica, Antigua, and Barbuda had suffered in much the same way as St Lucia. Grenada, even further to the south, suffered similar damage, perhaps even worse as communities were cut off by damaged coastal roads, and families were displaced from their homes because of floods or damaged poor quality housing.

Based on information from the assessment reports, OFDA and the United Nations Development Program (UNDP) decided to concentrate on providing emergency housing assistance, believing that financing the costs of building materials for the repair of damaged coastal houses was the most appropriate use of the funds. However, OFDA insisted that the houses be repaired using simple and appropriate hurricane resistant techniques (retrofitting) which have the potential to reduce loss from future hurricanes and provide a good example of OFDA's efforts to link relief and development. OFDA's $100,000 disaster declaration funds were spread equally across the islands of St Lucia, Dominica, Grenada, Antigua, and Barbuda, to cover the costs associated with retrofitting 25 houses. A total of 32 houses were actually retrofitted.

Collaboration

The collaboration between the 4 islands, the local community and national disaster offices, various ministries and implementing international agencies (OFDA, UNDP, OECS and CDERA) was exemplary. "Once we had the criteria for who qualified for assistance – the elderly, the helpless, the needy – picking the houses was still awkward," said Dawn French, project coordinator for the St Lucia component and local National Emergency Management Officer. The level of intervention varied. Some houses were completely retrofitted with new foundations, floor frame bolted to the new foundations and roof tied to the walls. Others only needed windows or doors repaired.

Perline was one whose house was completely retrofitted. Its bright turquoise color makes it standout, radiating safety and comfort. "They all needed some kind of repair, and the community helped us select the houses. The idea was not to just provide building materials to repair houses but to make them more resistant to future hurricane damage. With so many people qualifying, we tried to spread the money as far as we could insisting on buying all the materials locally so that the whole community would benefit."

Hiring a local contractor to manage the construction provided the necessary skills and manpower for swift reconstruction, and local purchase of materials, despite their scarcity, boosting the economy. The project was very successful because it engaged the local community, and was small enough to provide immediate results in a short time period.

CRS's Seed Vouchers and Fairs Activities Helped Farm Communities Recover Quickly From Disasters

Learning from the implementation of agricultural recovery projects and from the experiences of other institutions, CRS has developed an innovative and effective approaches to assist farm communities recover their livelihoods quickly. As part of its emergency program, CRS provides support to rural communities in the form of "seeds and tools" projects that provide seed and hoes to disaster-affected families so that they can restart their agricultural activities. In 1999, CRS provided over $1.7 million in assistance to families in the East and Central African countries of Burundi, southern Sudan, Kenya, Uganda and Rwanda. In 2000, funding of agriculture recovery increased to over $2.8 million.

CRS was a partner in the CIAT (International Institute of Tropical Agriculture) Seeds of Hope project in Rwanda in 1995/6 which provided displaced families with seeds for planting after the war, following the 1997 Kenya drought. Learning from those experiences, CRS became convinced that there was a better way to provide assistance in disaster recovery other than purchasing, transporting and distributing commercial seeds to farm families.

In 1998, CRS developed a "Seed Security Framework" that mirrors the widely used Food Security Framework and builds on the lessons learned in the Seeds of Hope project in Rwanda (see Louise Sperling paper in the July 1997 ODI Agricultural Research & Extension Network Paper No. 75 "War and Crop Diversity").

The Seed Security Framework diagnoses the source of seed problem looking at *availability* or lack of seed supply for purchase; *access* with cash, assets to barter, or a social network, seed can be obtain or purchased; *quality* seeds exist and farmers can access/purchase it, but it is not the right crop or variety, and/or it is infested with insects or diseases and is not viable. Under a OFDA grant in 2000, CRS teamed with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the Overseas Development Institute (ODI) in assessing seed security and seed aid interventions in northern Uganda and southern Sudan. This assessment confirmed that when there is seed insecurity it is rarely a problem of seed availability but rather a lack of access.

CRS/Uganda Karamojong Incursion Project
In early 2000, Karamojong pastoralists, in search of pasture, displaced an estimated 100,000 persons in Lira and Kitgum districts in northern Uganda. In addition to assisting displaced families with shelter, clothing, and household items, CRS/Uganda developed a plan to assist 12,000 families in obtaining seed to plant when they returned home.

The problem was diagnosed as a lack of access to seed rather than a lack of availability. Instead of purchasing commercial seed and distributing it to farm families, the decision was made to distribute vouchers that could be redeemed for

commercial seed from stockists or for traditional seed from local grain traders. Although concerns were raised concerning seed viability and the need to select seed from crops and varieties that could be planted late (as families were not able to return to their farms until the middle of the rainy season), OFDA agreed to fund the project. This was the first time that OFDA funded, a voucher system to assist farm families in accessing seed following disaster.

Seed fairs have been a popular and effective means of supporting traditional seed systems, and protecting and promoting biodiversity. Seed fairs have been organized for four years in Tharaka district, eastern Kenya by the Intermediate Technology Development Group and in Tanzania as well. The objectives of these and other seed fairs are to create awareness of alternative seed sources, especially of farmers' seed; enable farmers to access seed of crops and varieties that they want; and enable farmer seed experts to develop links with and share information with other farmers.

At the suggestion of the grain traders, special market days were organized at which beneficiaries could redeem their vouchers for seed. There were instances where voucher holders were coerced by traders, which highlighted the need for close supervision. However, the problem of coercion was easily managed and did not detract the impact of the project.

The Karamojong Incursion Project counted a number of achievements, amongst them: some 12,000 families accessed over 200 mts of seed from 10 different crops and 30 different varieties; both farmers and traders were empowered to organize procurement, transport, marketing and purchase of seed; almost 50% of the participating grain traders were women; farmers accessed seed of crops and varieties that are traditionally planted late. This included bean, which is of short duration, and sesame that matures on residual moisture after the cessation of the rains.

Combining seed vouchers and seed fairs in Eastern Kenya
Eastern Kenya has never really recovered from the devastating 1997 drought. The area was heavily impacted by the El Nino floods of 1998 and then by consecutive years of drought. In late 2000, with the start of the short rains approaching, CRS/Kenya approached FAO to fund a project that combined seed vouchers and seed fairs in order to provide farm families access to preferred crops and varieties of seed in time for planning.

With funding approval from FAO, CRS/Kenya and its partners, the Dioceses of Embu and Meru, organized 14 seed fairs at which over 8000 farm families were provided access to seed of their choice by presenting their vouchers to any of the 275 participating grain traders (of whom over 75% were women). CRS/Kenya was able to target farm families, distribute vouchers, inform grain traders, organize and implement seed fairs within a three-week period. As a result, farm families were able to access the seed of their choice prior to the onset of the rains. In contrast, many relief agencies that ordered seed from commercial seed companies did not receive them in time for planting. In addition to accessing seed promptly, farmers were able to access

a higher quality of seed (up to 14 kgs of seed in exchange for the $8 vouchers, which would have purchased only 4 kg of commercial maize seed).

Seed voucher and fairs – A new approach to agricultural recovery
The CRS Seed Voucher and Fairs provide an opportunity for seed sellers and farmers to interact. The fairs provide an opportunity for CRS to gather information on the kinds of crops and varieties available for sale, and farmers' preferences. The seed fair records can be used to evaluate the program and study the traditional seed system and seed security. The methodology is cost effective, can be implemented quickly and can serve the needs of all farm families in need of seed following disaster. As farm families recover, seed insecurity targeting can ensure that only those in need receive vouchers. The fairs can continue operating where most of the participants either trade seed or pay cash. Seed fairs are also an opportunity for commercial seed companies to sell their seed and research organizations to promote seed of new varieties for farmer evaluation.

The CRS Seed vouchers and fairs offer a better approach to agricultural recovery than seeds and tools projects. They (1) support rather than undermine local seed systems; (2) enable farm families to access seed of preferred crops and varieties and of acceptable quality; (3) are cost effective; (4) are simple to implement, monitor and evaluate; (5) can be planned and implemented in a short period of time; (6) can serve the needs of large numbers of farm families; and (7) can be adapted to the level of seed insecurity.

Technical Assistance to the World Bank Promotes Integration of Disaster Reduction Measures in Bank Financed Activities

Throughout FY 2000 OFDA provided technical assistance to increase the World Bank's capacity to incorporate natural disaster prevention and preparedness into its development agenda. The assistance was through a staff secondment to the Bank's Disaster Management Facility (DMF). The DMF was established in 1998 to promote disaster risk reduction in developing countries and enhance the Bank's disaster and risk management capacity.

The World Bank's worldwide natural disaster-related lending totals $US 23 billion since 1980. Nearly half of that total has been emergency loans to assist recovery following major disasters. Through the secondment, OFDA seeks to promote a shift from post-disaster emergency response towards prevention and preparedness as an integral part of sustainable economic development. Activities undertaken in support of this objective include:

Support for Bank disaster management operations
Through the DMF program OFDA provided technical assistance to World Bank missions in three countries, Mozambique (floods), Madagascar (cyclone) and Vietnam (floods) and to technical advisory groups for emergencies in Eritrea and Ethiopia (drought). The assistance included assessment of damage and needs, as well as

designing of measures to reduce future disaster risks that could be incorporated into recovery strategies. Follow-up discussions are underway within the Bank and with the governments of the affected countries that are expected to bring about several projects in FY 2001 to identify and reduce disaster risks over the longer-term, which would involve USAID.

Strategic planning and policy analysis
In FY 2000 the DMF reviewed and revised World Bank operational policies and procedures to better link emergency recovery operations with long-term risk reduction. The revised policies are currently undergoing review by the Bank's legal department. Similarly, OFDA technical assistance inputs contributed to the incorporation of natural hazard vulnerability reduction into the Bank's environmental strategy. The DMF also conducted analyses and provided input for country-level strategic planning. For example, following the 2000 floods in Mozambique, that country's strategy was strengthened to include greater provisions for disaster reduction.

Global review of regional Climate Outlook Forums
The World Bank, with OFDA's technical assistance, was part of the organizing committee for a year-long review of the climate outlook forums that provide advance information on seasonal climate conditions in regions where extreme climate variations trigger frequent disasters. The committee worked in partnership with USAID, the U.S. National Oceanic and Atmospheric Administration, the World Meteorological Organization, the International Research Institute for Climate Prediction and the South Africa Weather Bureau. Over 60 representatives from dozens of regional and national level organizations that have built and sustained these forums worldwide since 1997 participated in the review. As a follow-up to the review, in FY 2001 the organizing committee is planning to launch a major effort to systematically capitalize on the opportunities identified in the review to improve the management of climate variability and extremes in affected regions.

Other activities
With OFDA's technical assistance the Bank will focus on identifying global disaster risk hotspots geographic overlay of distributions of natural hazards and elements at risk. The results of this analysis will be used to target further risk identification, reduction and transfer measures. The Bank with an OFDA grant, will also lead an effort to improve the database for analyzing the economic impacts of disasters. This effort will focus on improving the quality of existing data made available on the world wide web in order to enhance the comprehensiveness of data on future disasters by providing more systematic damage assessments and reporting.

Community-based Mitigation Follows the Venezuela Flood and Landslide Disaster

Torrential rains and subsequent flooding, landslides, and debris flows devastated the north coast of Venezuela in December 1999 and January 2000, killing more than 15,000 people and causing billions in damages. An accepted tenet of natural hazard

mitigation states that the post-disaster time period is a critical window for initiation of long term mitigation programs taking advantage of public and governmental focus on the underlying causes of the disaster, as well as continuing vulnerability. As part of its mission in Venezuela, the OFDA DART identified several priorities for follow-on mitigation focusing on land use and watershed management.

The first component of OFDA's mitigation program in Venezuela targeted technical aspects of the national governmental capacities to address the immediate and long-term vulnerabilities in the face of continued flooding and landslide hazards. To accomplish this, OFDA took advantage of its Participating Agency Service Agreement (PASA) relationship with the U.S. Geological Survey. USGS landslide and flooding experts, several of them with key professional experience working in Venezuela, developed a program to work alongside counterparts in the Venezuelan Ministry of Natural Resources (MARN) to document the affects of the extreme events, map additional areas at risk, and begin to develop a systematic approach to hazard identification and mitigation. Through technical visits, collaborative work in the field, and formal hands-on training of Venezuelan geoscientists, USGS contributed to the long-term ability of MARN to conduct its own hazard mapping and analysis, and compile this information in a format useful for local authorities. A number of technical publications have resulted from this work.

The second component of the OFDA program sought to target appropriate non-governmental, community-based natural hazard mitigation initiatives in Venezuela. OFDA provided Mercy Corps International with a grant to reduce the vulnerability of local communities to natural hazards. The two primary program objectives are (1) to increase citizen capacity to develop and implement effective prevention, and (2) mitigation efforts and to increase the integration of risk prevention and mitigation into the on-going development activities in Venezuela.

A final component of OFDA's mitigation strategy focused on the urban area of Caracas. Although not as hard hit during the 1999-2000 event, populous Caracas (27 million) is prone to many natural hazards including flooding, landslides, earthquakes, and urban fires. A key agency with important community level responsibility for disaster response, public education, and planning is the Cuerpo de Bomberos or the District Fire Department of Caracas. With the assistance of the US Embassy/Caracas, OFDA facilitated the purchase of new computer equipment to support their GIS facility, which provides useful compilation of key disaster vulnerability and planning information. With this new equipment, the Fire Department can more effectively prepare for future disasters as well as perform systematic analysis of the most vulnerable communities and neighborhoods, translating results into public outreach and education materials to promote individual and household mitigation activities.

OFDA spent approximately 28 percent of its disaster relief funding on mitigation programs in Venezuela. The full impact of these mitigation programs will not be known until future severe storm events occur and the contributions of increased technical capacity, public and private preparedness, and improved disaster response

are tested. However, the anticipated payoff is in keeping with OFDA's mission to enhance the ability of nations to prepare for future natural events, reduce community vulnerability, and eventually diminish the need for international disaster relief.

A Community-Based Activity in Istanbul, Turkey Promotes Seismic Hazard Mitigation and Preparedness

Two devastating earthquakes occurred along the seismically active North Anatolian Fault Zone of Turkey in August (7.4 on the Richter Scale), and November 1999 (7.2 on the Richter Scale). Both events hit populated areas, resulting in significant damages and dramatic impact on structures, lifelines, and services across broad regions of the country. The earthquakes generated significant adverse economic and social impacts because the affected region is Turkey's industrial heartland. Most experts now agree that the next large rupture of the North Anatolian fault will be near Istanbul, a metropolitan area of nearly 12 million people, many of whom live in similar structures as those damaged in the 1999 earthquakes.

The August 17 earthquake devastated the cities of Istanbul, Izmit, Skakrya, Bolu, Bursa and Eskisehir, which comprised Turkey's most important industrial hubs. Approximately, 15, 466 people were killed, 23,954 were injured and an estimated 600,000 people were rendered homeless. It was estimated that 57,572 houses were damaged and 9,866 businesses were destroyed. An additional 56,312 houses, and 8,869 businesses suffered moderate damage.

The second earthquake's epicenter was 115 miles east of Istanbul in the town of Duzce, Bolu province. The affected area was on the edges of the area devastated by the August 17, earthquake. Some 816 people were killed, and 4,948 injured, with an estimated 50,000 people displaced and some 20,500 left homeless.

Lessons Learned: Mitigation Program
In light of the extreme risk of earthquakes in the Istanbul area, OFDA funded an Istanbul-based, three year program in 2000 to support the ongoing activities of a community-based organization that became active in promoting earthquake preparedness and mitigation shortly before the devastating events of 1999. This organization will receive technical support from the U.S. Geological Survey via an existing collaboration with Turkish counterparts in the following areas:

1. Assist Kandilli Observatory in the completion of a revised seismic hazard assessment of Istanbul and Northwestern Turkey/Marmara Sea area. To support this effort, USGS will work with counterparts to compile and interpret mainshock and after aftershock sequences of the 1999 events.

2. USGS will train and share techniques with Turkish seismologists from Kandilli and other appropriate institutions in state of the art probabilistic seismic hazard assessment and mapping methodologies. This will occur through completion of (1) but may also entail extended training visits of USGS scientists to Turkey, and vice versa.

OFDA is also partly funding a "training the trainers" program in emergency management and earthquake preparedness, based on a Memorandum of Understanding between the Turkish Ministry of Interior and the U.S. Federal Emergency Management Agency (FEMA).

Volcano preparedness: Monitoring the Guagua Pichincha Volcano in Ecuador

Guagua Pichincha is a stratovolcano located 10 km west of Quito, the capital of Ecuador. It has erupted 25 times in recorded history. The volcano has an elevation of 15,692 ft (4784 m), and its summit crater or caldera is 1.6 miles (2.6 km) in diameter. Located at the base of the volcano, Quito has been significantly affected several times by eruptions of Guagua Pichincha. The worst of these events occurred in 1660, when as much as 10 inches (25 cm) of ash and volcanic fragments covered the city. Today, the city of Quito has grown to a population of 1.8 million, significantly increasing the number of people and vital infrastructure at risk.

During the fall of 1998, Guagua Pichincha entered a prolonged period of unrest culminating in a series of eruptions in 1999 and 2000. The string of eruptions produced a lava dome in the summit crater, and was punctuated by periods of explosive activity and localized ashfall. The city of Quito was repeatedly dusted with several layers of fine ash, which closed schools and the Quito International Airport, and caused traffic, health, and safety problems. The volcanic eruptive activity caused considerable socio-economic disruptions in the daily lives of millions.

In addition to the ongoing impact of the eruptions, the ominous possibility of even more violent explosive activity continuously lurked, with attendant greater impacts on the population. During accumulation of lava in the volcanic dome, more energetic, sustained explosions could have occurred and produced produce greater volumes of ash that would have traveled further downwind. Larger explosions could be accompanied by deadly, rapidly moving avalanches of ash, rocks, and gas, called pyroclastic flows, putting nearby populated areas at greater risk. If significant amounts of ash accumulate on the flanks of Guagua Pichincha, it was possible that heavy rains could result in remobilization of this ash into lahars (mudflows) down gullies causing damage to areas in western Quito. Increased ashfall and accumulation of ash could cause roof collapse and could contribute to health, water, and sanitation problems as ash and volcanic gasses contaminate air and water systems.

In addition to the 1.8 million residents of Quito, Guagua Pichincha threatened residents of a number of smaller towns and villages on the southern, western, and northern flanks of the volcano. Population centers considered most vulnerable to a significant volcanic eruption are the towns of Lloa, Mindo, and Nono, located approximately 10, 20, and 12 km from the volcano, respectively. There are approximately 5,000 residents total in these villages.

The eruption of the Guagua Pichincha volcano therefore presented a variety of problems and grave risks to a large number of people. Compounding the existing natural hazard was the uncertainty regarding the duration of unrest and when (and more importantly, if) a more significant eruption was going to occur.

Activities Undertaken by OFDA

USAID/BHR/OFDA contributed to the successful management of this severe urban volcanic crisis primarily through its support of the Volcano Disaster Assistance Program (VDAP), a jointly funded program of OFDA and the U.S. Geological Survey (USGS). VDAP was founded following the tragic 1985 eruption of Nevado del Ruiz Volcano in Colombia, in which over 23,000 people lost their lives. The primary mission of this interagency cooperative program is to reduce eruption-caused fatalities and economic losses in developing countries and to build the capacities of local scientific organizations to carry out their own hazard mitigation programs. The principal components of VDAP are operational funding from OFDA and USGS, a small core group of scientists at the USGS Cascades Volcano Observatory (CVO) in Vancouver, Washington, a large pool of volcano experts from CVO and other USGS offices, and a cache of portable volcano-monitoring equipment ready for rapid deployment. The strategy employed by VDAP to reduce loss of life and minimize economic disruption includes working directly with local scientists and technicians to conduct instrumental monitoring to detect the movement of molten rock toward the surface and thereby forecast eruptions. The VDAP approach also involves assessing volcano hazards and risk based on past eruptive events at a volcano.

To prepare Ecuador and equip its authorities to monitor and deal with impacts of volcanic eruptions, OFDA has provided years of VDAP technical assistance to the Instituto Geofisico (IG, or Geophysical Institute) of the Escuela Politécnica Nacional (National Polytechnic School) in Ecuador. Over the past decade, VDAP has provided the IG with volcano-monitoring equipment, including telemetered seismometers, tiltmeters, acoustic flow monitors, telemetry repeaters, and base station computer networks, along with training and in-country assistance to install and operate their country-wide volcano monitoring network. In the summer of 1998, OFDA funded a VDAP-led workshop in mudflow hazards, held in Quito and attended by scientists from a number of Latin American countries. Lessons learned from this training were immediately put to use during the Guagua Pichincha eruptions of 1999 and 2000.

In response to an official request from the Government of Ecuador following the onset of new eruptions, VDAP provided technical assistance, upgraded specialized monitoring equipment, assisted in analysis of data, met with local officials, and advised Ecuadorian scientists at the IG in management of the situation. VDAP scientists assisted IG staff with development of effective eruption forecasts, alert-level strategies, and hazard zonation maps. VDAP scientists joined their Ecuadorian colleagues in high-level meetings with Ecuadorian government, military, and civil defense personnel and provided advice and perspective about hazards based on more than 20 years of volcano-crisis-response experience. In addition, VDAP, accompanied

by the OFDA geoscience advisor from Washington DC, participated in an Ash and Aircraft Safety Workshop in Ecuador with U.S. Embassy staff, and Ecuadorian civil, meteorological, and military organizations. The workshop established procedures in Ecuador to mitigate hazards from volcanic ash clouds for local and international aircraft in the country, in an effort to avert a catastrophic plane crash.

In addition to supporting the Instituto Geofisico, OFDA and VDAP scientists provided advice about volcanic unrest and eruptive activity to the U.S. Embassy, USAID/Quito, the U.S. Military, airlines, and representatives of various international agencies responding to the crisis. OFDA worked closely with the USAID/Quito Mission Director and Acting Mission Disaster Relief Officer to ensure USG coordination of activities. At the request of USAID/Quito, OFDA participated in an evacuation exercise supported by the government of Ecuador and the U.S. Southern Command. OFDA assisted USAID/Quito with disaster preparedness activities, and worked with the U.S. Embassy to formally request that the Government of Ecuador increase its support to the Instituto Geofisico. OFDA also funded a team of U.S. Department of Defense meteorologists to assist Ecuadorian scientists in measurements of atmospheric profiles above Quito, providing information necessary to accurately forecast the movement of ash clouds from the volcano. To assist in proper, safe response to repeated ashfalls at Quito International Airport, OFDA partially supported a consultation visit of a U.S. expert in airport operations and volcanic ash management. In late September 1999, OFDA provided USAID/Quito with $12,000 to support the IG's monitoring program which included, among other activities, observational and gas measurement overflights of Guagua Pichincha volcano.

During the past two years, VDAP assistance to Ecuador has included working visits by approximately 20 USGS and VDAP scientists to provide training and assistance (approximate cost $80,000), along with monitoring equipment worth approximately $125,000. Nearly $50,000 in salary costs for non-VDAP USGS scientists who worked in Ecuador was shared by OFDA and the USGS. In addition to regular visits to assist the IG team, VDAP scientists interact frequently with colleagues at the IG via telephone and internet communications to help them evaluate ongoing eruptive activity and to keep their monitoring equipment functioning.

Activities Undertaken by the Government of Ecuador

Ecuadorian authorities undertook critical activities to mitigate the crisis. At the national level, in early October, the Government of Ecuador assigned 1,500 million sucres (approximately $100,000) for the emergency situation. A Special Committee for Emergency Management and Response was established on October 15 by the Ecuadorian Minister of Housing. Prior to the eruptions, the most at-risk communities as identified by scientists and authorities were evacuated by the Ecuadorian Civil Defense. All of the 950-1000 residents of the town of Lloa were evacuated from the vicinity of the volcano. Of these, 250 were housed in government shelters and the remainder stayed with extended families. Buses were pre-positioned to evacuate other

towns as necessary. The Civil Defense and other emergency response agencies met basic needs, including temporary shelter, food, medicine and emergency supplies.

At the provincial level, the Governors coordinated response activities with assistance from the Civil Defense Provincial Emergency Operations Centers. The city of Quito developed and implemented a comprehensive emergency plan. Quito authorities conducted an extensive education campaign to remind the public of the importance of sweeping ash from rooftops to avoid roof collapse.

Impacts and Results

Thanks to adequate scientific monitoring of the volcano by OFDA-funded VDAP scientists and their colleagues at the Instituto Geofísico, Ecuador's national and municipal authorities and the public were largely ready for the impacts of these eruptions. Over time, the city and emergency agencies made adequate preparations for what could have been a much more significant disruption to life in Quito. With the exception of a few respiratory problems, no lives were lost as a direct result of the eruptions.

OFDA's investment in Ecuador has greatly enhanced the capacity of the scientific team at the IG to monitor restless and erupting volcanoes in Ecuador and to provide accurate and helpful information to their government and civil defense officials. This in turn has enabled the government to plan for response, issue warnings, inform citizens regarding risks they faced, and make difficult decisions about evacuations. Ultimately, OFDA's support of early warning systems in Ecuador helps save hundreds of lives, a legacy that will continue in the future.

As the Guagua Pichincha volcanic crisis may last for many months, or even years, OFDA/VDAP assistance is expected to continue into 2001 and possibly longer, albeit at a reduced level due to the increased emergency capacity of the Government of Ecuador. The exact nature of future assistance provided and the personnel involved will depend upon the nature of assistance requested and availability of resources. OFDA maintains a commitment to supporting these preventative and capacity building activities in Ecuador to prevent unnecessary suffering and loss of life.